GPTERM

AMIGA

Version 4.5

Comprehensive Telecommunications Software
featuring full videotex and ANSI
terminal emulations

GPTERM

Version 4.5
UPDATE NOTES

GPTerm-Amiga Version 4.5 UPDATE NOTES.

We are constantly refining GPTerm-Amiga to add and enhance its features. As of this date, we are now supplying version 4.56. Please check the 'Changes_4.5' file on the master disk for information on the latest changes.

Version 4.5 of GPTerm-Amiga provides a significant number of improvements and extra features over version 4.0x.

The main changes are as follows

- Fully buffered file I/O - more efficient file transfers resulting from better multitasking.
- Automatic detection and initiation of ZMODEM downloads.
- Full support for the new Discovery 40/80 "dynamic mode switching".
- Significantly better response from the file requester which remembers the file paths after disk changes
- Extra buffered and non-buffered split window chat modes.
- Two IBM emulations - IBM1 8 colours IBM2 16 colours with improved compatibility with IBM font graphics supporting the lower characters (HEX 1F). (IBM graphics font supplied.)
- Improved VT100 emulation with automatic support for VT100 graphics character set font for both 80 and 132 columns. (Supplied) Menu select or by remote system sending appropriate ESC code (ESC [? 3 h/l).
- Better support for multiple dialling of services - "NEXT" gadget added to dial window.
- User-definable ansi screen without borders, titles or visible screen depth gadgets. Amiga INTERLACE supported. (Amiga ONLY)
- Full support for multiple serial devices and alternate serial.device drivers. All Amiga handshaking options available.
- More efficient overlay version for 512K users. General Workbench 2.0 and Amiga 3000 compatible.
- Rationalised Amiga "hot keys"

Please take a careful look at the menus to see the changes from earlier version 4.0x.

TERMINAL EMULATIONS

Two IBM emulations.

Both provide a complete emulation of a standard IBM terminal with all attributes including flashing. IBM1 supports 8 colours plus BOLD whereas IBM2 provides full 16 colour emulation. Default colours for IBM2 emulation are as defined in the 'Cybanet' configuration file.

IBM and VT100.

These emulations require special IBM/VT100 fonts supplied on this disk. Install these in your FONTS: directory. They provide access to the special graphics characters for both 80 and 132 columns modes. **YOU MUST USE THE SUPPLIED FONTS: GPTIBM, GPTVT100 and GPTVT132**

You may interchange the Backspace and DEL keys to emulate VT100 terminals. Applies to ALL emulations. **BS DEL** simply swaps the operation of these two keys.

SHIFTED DEL will generate an INSERT escape sequence. (AMIGA MODE)

DEFAULT CONFIGURATION.

The default configuration of the program is now AMIGA Ansi mode at 2400, NOT videotex as in manual. This may be changed by altering the gpterm.config file in the root directory of the disk.

RUNTIME SETTINGS.

GPTerm-Amiga now accepts the following command line arguments:-
(do not include "" or "" or spaces)

-c < config path name >
-d < serial.device name >
-u < serial unit number >
-w = no window drop
-t = no titles
-L = interlace on in Amiga Mode
-b = no borders

gpterm -Dnewserial.device -U4 -Cmybbs -W -B -T

VT100 Font. (YOU MUST USE THE GPTVT100 & GPTVT132 FONTS SUPPLIED!)

Allows specific setting of 80 or 132 column font in VT100 mode ONLY. Normally it is advised that you allow the remote system to automatically set the required mode.

AUSTRALIAN TELECOM DISCOVERY SERVICE.

Telecom Australia have recently introduced the Discovery 80 service. GPTerm-Amiga now fully supports this service and its "**dynamic switching modes**" between VT100 Discovery 80 and the videotex Discovery 40 service. To use the Discovery 80 service, set the terminal mode to VT100, 8 bits no parity at either 1200 or 2400. "Auto Switching" to the 40 column service will occur if the service sends the appropriate escape sequences (ESC #0 or ESC #1).

OTHER CHANGES.

There are a significant number of other changes to the underlying code of GPTerm-Amiga which combine to make the program more efficient. The 512K version is now has far more efficient "overlays" which save up to 100K of memory over the "full" version under various circumstances. This will be especially useful for those with limited memory.

Accidentally running GPTerm twice will no longer produce "cannot open serial device" messages, instead the running program is signalled and brought to the front screen. If the currently running version is busy this may take a small amount of time.

THANKS

Most of the above changes were suggested to us by responsible users of GPTerm-Amiga. We extent our thanks for all the feedback and comments received from all our registered users and look forward to your feedback.

Thanks also to those who provided beta test reports on this version, with special thanks to Rob Lang, Greg Palmer, Kathryn Wilson, Tom Yallowley and Brendan Pratt.

Remember - Spread the word NOT the disk. Piracy will simply destroy the small software writers in this industry and the Amiga will die! Support us and we will support you with future updates and new products.

Alternatively set the following in the TOOLTYPES array of the GPTerm icon. (GPTerm.info)

DEVICE = serial.device name	UNIT = serial unit number
NODROP = TRUE	NOTITLES = TRUE
NOBORDERS = TRUE	LACE = TRUE

CHANGES TO THE ANSI EXTRAS MENU.

Auto Zmodem Download.

If selected, GPTerm-Amiga will detect the initial string of a zmodem download sequence automatically begin the download sequence. For safety, the auto download does not use the path in the transfer file requester BUT will store the file in the **PATH AS DEFINED BY THE TRANSFER PATH IN THE CURRENT CONFIGURATION** - See Config - File - TRANSFER Path.

Chat Modes.

Three chat modes are now available - Colours (as before), Windows NB (non buffered) and Windows B (fully buffered). These modes are designed to allow the user to "chat" with other users or take part in conference sessions.

The "**Non-Buffered**" mode simply transmits each character as it is typed but and places the output in the bottom window for you to see.

The "**Buffered**" mode is similar to the AMIGA Shell in concept. All characters are buffered until a carriage return (new line) key is pressed. You may edit the line using the left and right cursor keys as well as backspace and delete before pressing return to send the line. (NOTE: SHIFTED DEL = INSERT. ESC aborts the current line)

Each line is stored in a buffer (20 lines)and you may review past lines using cursor up and down. Such reviewed lines may be edited before transmission.

Device Parameters.

Available either from the menu or the main configuration requester. Allows you to change the device parameters used by the program. Select device name, unit number and handshake as desired. These may be specifically set at run time in command line arguments or as ToolTypes in the GPTERM icon.

Because of potential problems with incorrectly set serial parameters, **NONE OF THESE SETTINGS ARE SAVED IN THE NORMAL CONFIGURATIONS**. You must load the program as normal, then set the required parameters for the particular serial device required. Alternatively, if you wish to lock your program into a specific device, you may use the command line arguments or tooltypes array of the program icon.

"**Carrier detect**" is provided to disable the detection of carrier detect from the modem. This **MUST ONLY BE USED ON THOSE BUDGET MODEMS** for which it is impossible to turn off carrier detect. For "normal" hayes type modems change the internal modem setting. (Similar to AT&C1 ??).

WARNING: Turning off carrier detect will affect the main dialling function of GPTERM-Amiga.

Scroll.

For high speed modems to "speed up" the Amiga display when using multi-bitplane screens. NORMALLY USE 1 LINE SCROLL.

Bold Enable.

Enables BOLD attribute for ANSI/IBM sequences. Turn this OFF when using AMIGA emulation if remote system (e.g. IBM BBS) sends too much text in bold. This setting IS IGNORED for the IBM2 mode.

Windows.

Allows user to select if the main ansi window has borders, titles, or if the window is dropped to reveal the screen depth gadgets. These may be specifically set at run time in command line arguments or as ToolTypes in the GPTERM icon. NOTE: Although saved in the configurations, these settings are only acted upon if set in the default configuration file - GPTerm.config - or overridden by command line arguments or ToolType settings in the main program icon.

Amiga Lace.

Enables INTERLACE mode (512 line PAL) in Amiga emulation mode ONLY.

Acknowledgements.

GPTERM is (c) GP Software, Brisbane, 1988. Written by Greg Perry and Steve McNamee with special thanks to Lindsay Whipp for icons and cover design, and Mark Wharton for graphic design suggestions.

We extend our thanks to NetComm Australia for support in developing this package.

Amiga, AmigaDOS, Workbench, Intuition are registered trademarks of Commodore-Amiga, Inc. Workbench and associated files are included on the program disk by the kind permission of Commodore Business Machines Australia.

Deluxe Paint is a registered trademark of Electronic Arts.

We also wish to acknowledge those who have made available some of public domain source code which show us all the way. In particular, we would like to mention R.J. Mical for his file I/O and colour requesters, and Chuck Forsberg, for his development of the original UNIX ZMODEM protocol.

Lastly, but not least, thanks to those users who supported our earlier versions. This version (V 4.0) incorporates many changes and additions suggested to us by users of our previous programs.

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1. INTRODUCTION.

We have been developing communications programs for Commodore computers for several years. With GPTERM-Amiga we have endeavored to provide you with a powerful, general purpose communications program to suit the needs of most home, student and business users.

Our design strategy has been to create a program which is easy to use for both the beginner and the experienced user, as well as providing shortcuts for the expert. As part of this philosophy, the important functions of the program may be performed either with the mouse or directly from the keyboard. Right-Amiga 'hot keys' are provided for the main menu options while most requesters can be satisfied by either the mouse or the first letter of the appropriate gadget text.

Multitasking.

GPTERM has been specifically designed for the multitasking Amiga. However, if you choose to multitask GPTERM with other programs which use large amounts of memory, on a machine where this is a scarce resource, there may not be enough memory remaining for GPTERM to operate fully. These are circumstances beyond our control. Although we try to warn you when such situations are likely to occur, there may be times where there is simply not be enough chip memory available to open new windows. (In the worst case, menus will not even function!)

Under all but extreme cases, GPTERM will 'survive' in this restricted state until you free up extra memory. (See below.)

After loading and opening the main terminal window, GPTERM requires approximately 70K of 'non-fragmented' chip memory to operate file and configuration windows successfully.

Public Domain Programs.

Although much of the software available in the public domain is excellent, we have found that some programs either do not multitask efficiently or cause problems when used on a multi-window program such as GPTERM. For example, programs which change the foreground/background priority of screen windows may adversely affect the operation of GPTERM and should not be run concurrently.

If you have any problems using GPTERM, general comments, or suggestions for improvements in the program, we will be pleased to hear from you.

2. INSTALLATION.

Before you do anything else, BACKUP the distribution disk with 'diskcopy' or a similar program. DO IT NOW!. Put the distribution disk in a safe place and use the backup for normal use.

2.1. Program Versions.

On the distribution disk, you will find two versions of GPTERM-Amiga. These are labelled GPTERM and GPTERM-512K.

Although GPTERM uses memory efficiently, it is a large program. We recommend that you have at least one Meg of memory to operate all the options at once, especially if you wish to multitask other programs at the same time.

Amigas with more than 512K of memory.

If you are using an Amiga with extra memory, simply use the main version labelled GPTERM.

Amiga 500/1000 with only 512K memory.

If you are using an Amiga 500/1000 with only 512K of memory, we recommend that you use the second version, GPTERM-512K. However, because the program expects to be named GPTERM you must perform the following:-

. Rename GPTERM to GPTERM-1MEG

. Rename GPTERM-512K to GPTERM

The program GPTERM-512K has been modified to load only those sections of the program as required at any given time. This 'overlay' concept greatly reduces the amount of memory required for complete operation of the program.

2.2. Hard Disk Installation.

On the distribution disk is a batch file called 'HD-Install'. To install GPTERM on your hard disk, enter

EXECUTE HD-INSTALL <hard_disk>

where <hard_disk> is the device or volume name of your hard disk or hard disk partition where you wish GPTERM to reside.

For example, if your main hard disk partition is DH0:, enter

```
EXECUTE HD-INSTALL DH0
```

This procedure will create a drawer named GPTERM and place into it the program and its associated directories. It will also copy the IBM font to your FONTS: directory if you desire.

To complete the installation, modify your 'startup-sequence' to include the command ASSIGN GPTERM: <hard disk volume>:GPTERM.

2.3. Character Fonts for IBM emulation.

GPTERM allows you to select any 8 X 8 pixel font for use with any terminal emulation *except* for Videotex and the IBM emulation. Videotex uses a 'built-in' font and does not directly use an Amiga font as such. The IBM emulation ***REQUIRES*** that the font named 'IBM.font' be in the directory assigned to FONTS:. If you have booted the program from the release disk, or have installed the program on a hard disk with our batch file, you will have no problems. However, if you normally boot from another disk, before you use the IBM emulation you must transfer ***OUR*** IBM font to your FONTS: directory.

To copy our IBM font to your FONTS: directory, execute the batch file MAKEIBMFONT as follows

```
EXECUTE   MAKEIBMFONT
```

2.4. Memory Problems.

GPTERM has been designed to make efficient use of the Amiga's memory, quickly freeing up all memory not required by the current program operation. However, in some cases, especially if you have a large videotex carousel in memory, you may encounter low memory problems. (A 'flashing' message on the top status line of the display will appear to warn you if such circumstances arise.)

Low memory is most usually caused by insufficient chip memory being available for the operation of windows, requesters and menus. This condition may also occur if the chip memory has been extensively 'fragmented' where one continuous hunk of the required size is not available.

The GPTERM program itself resides primarily in fast memory, if this is available. Large videotex carousels may require over 100K of memory storage. Although fast memory is requested first, if this is used, chip memory will be required. Under extreme low memory conditions, the actual number of frames in the carousel will be limited by available memory. Similar problems may arise if you use the RAM: for downloads or text captures.

Chip memory is a scarce resource in the Amiga. If you experience low memory problems, we suggest you try the following

- Close down all windows on the workbench screen.
- Delete all unneeded files from RAM:
- Terminate any multitasking programs.
- Limit the number of videotex frames stored in the internal carousel. Or, clear the carousel of any stored frames.
- Use the disk for downloads and text captures.

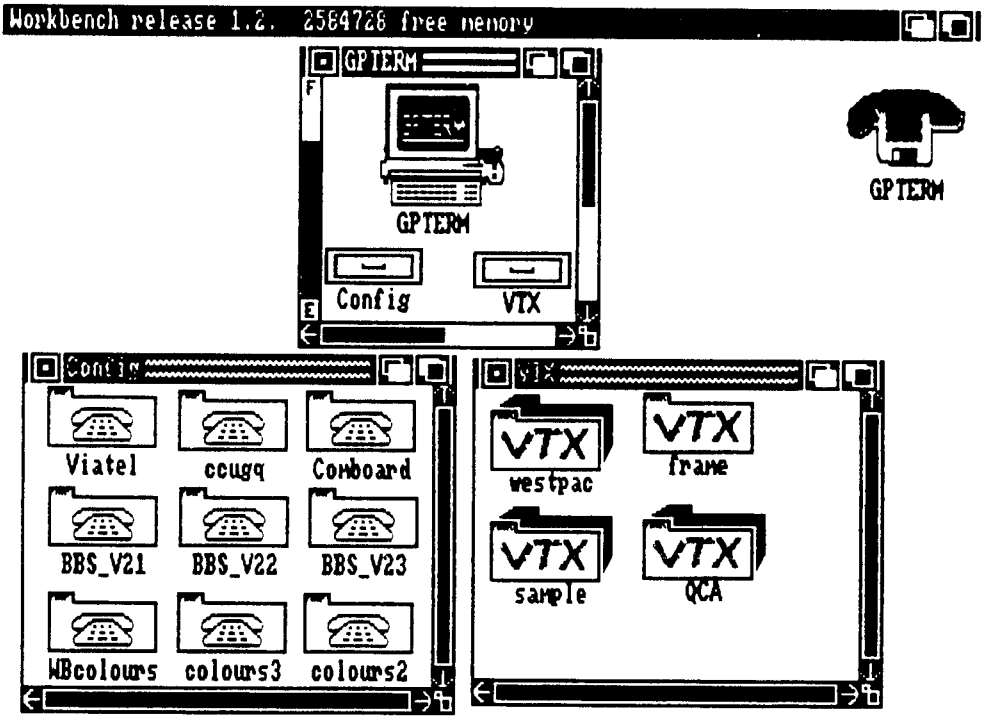
3. LOADING GPTERM-AMIGA.

To satisfy both the CLI and Workbench user, we provide a variety of methods to load the program, consistent with normal Amiga operation.

Any of the specific icons created by the program may be 'double-clicked' to 'preload' the program with the information they contain. A double click will load GPTERM, read and display the videotex carousel, or read the configuration file and immediately commence dialling the selected service.

For those with a single floppy drive system, the master program disk is a bootable 'workbench' disk which may be used in place of your normal workbench disk. Reset the Amiga in the usual manner (Ctrl,left-A,right-A) and when prompted for the 'Workbench disk', insert your GPTERM-Amiga program disk.

From Workbench, clicking the disk icon will open the GPTERM disk window to reveal the main program icon plus icons for the two drawers - the CONFIG drawer and the VTX drawer.



3.1. From Workbench.

There are three ways to access the program from the Workbench icons. The program may be run directly, pre-loaded with a previously saved videotex carousel or frame, or pre-loaded with a particular terminal configuration.

3.1.1. Loading in Default Mode.

Double-click the main program icon to load GPTERM. The program will check for a 'default' configuration file in the current directory (containing the main GPTERM icon), the SYS: directory or the S: directory.

If no 'default' configuration is found, GPTERM will set to its own internal default settings. These are set for videotex mode access to Telecom's Viatel service. (*NOTE: No function keys or Page keys will be set.*)

If a configuration file with the name 'GPTERM.config' is found, it will be loaded and the program will adjust to the environment it contains.

If you wish to change this 'default' environment (any part of the terminal configuration), load the program, change the settings to those desired, and re-save the configuration under the name 'GPTERM.config' to the directory containing the main program icon. (This is usually the root directory of the GPTERM disk.)

3.1.2. Preloading with a Terminal Configuration.

Open the drawer named CONFIG by double-clicking its icon. Move the mouse pointer to the desired configuration and double-click. This will load GPTERM and read the selected configuration file. GPTERM will then immediately commence dialling the number as defined in the configuration.

(Multiple dialling is not supported from Workbench or CLI. If you 'shift-click' several config icons, only the last selected configuration will be used.)

3.1.3. Preloading a Videotex Carousel or Frame.

Open the drawer named VTX by double-clicking its icon. Move the mouse pointer to the desired videotex carousel or frame and double-click. This will load GPTERM with the default configuration then load the selected videotex file and display the first frame for immediate access. (For Example, when a slide show is desired.)

3.2. From the CLI.

If you have not booted your Amiga from the program disk or already assigned the directory 'GPTERM:', you should do so now before running the program. This may be done by

ASSIGN GPTERM: <volume-name or directory-name>

To run the program from the CLI, it is advisable to first set the current directory to the GPTERM disk with

CD GPTERM: <return>

then run the program by entering

GPTERM <return> (or RUN GPTERM for multitasking.)

As from workbench, an optional videotex file or configuration file may be preloaded into GPTERM by entering

GPTERM dir/videotex_filename <return>

or

GPTERM dir/config_filename <return>

where 'dir' is the path name for the directory containing the videotex or configuration file.

For example, entering 'GPTERM VTX/Sample' will run the program and load the series of test frames provided in the file 'Sample' in the 'VTX' directory.

As from Workbench, if no configuration has been preloaded, and if the file 'GPTERM.config' is found, it will be loaded as the default configuration.

NOTE: The term 'videotex file', as used above and in subsequent discussion, is a specific file type consisting of a videotex frame or carousel of frames created by (saved from) GPTERM. All other files will be ignored by the program. Similarly, the term 'configuration file' is a specific file type created by GPTERM.

4. OVERVIEW OF GPTERM-AMIGA.

Unfortunately, we cannot guide you through a communications session with any particular service. You must refer to the instructions provided by each particular service to help you. However, to allow you to quickly understand the capabilities of GPTERM, the following is a brief summary of the its special features.

GPTERM-Amiga provides two independent operating modes within the one program plus a number of specific terminal emulations. The two modes are: a full function videotex emulation, for accessing services such as Viatel, WestPac Handi-Line, Elders and other commercial videotex services; and a terminal mode supporting a number of specific terminal emulations for accessing Bulletin Boards, Minerva, KeyLink, and other text based services. The user may 'swap' between modes or terminal emulations at any time.

Global control over the program 'environment' is conveniently provided by the a 'configuration' file. This actually maintains all the settings for both videotex and terminal emulation modes including the selected emulation, phone number, modem settings (including baud rate etc), separate colour settings for each mode, the 20 function keys and the 26 videotex quick access keys, and more. Separate configurations may be loaded for different services.

Although each operating mode shares a number of functions, some features such as colours and download protocols are specific to either the videotex or terminal modes.

In videotex mode, extensive use is made of the mouse, allowing you to run the complete session without touching the keyboard. (Well almost!)

GPTERM will efficiently multitask with other Amiga programs such as wordprocessors, drawing programs, spreadsheets etc.

The program will function correctly on any Amiga system 500/1000/2000 whether PAL or NTSC. GPTERM automatically adjusts between PAL and NTSC video to provide a full screen display. In videotex mode, a full 8 x 9 character set is provided when the program is run under PAL. For NTSC users, if you install the public domain program 'More Rows', or similar, you can obtain the benefit of the full window in ASCII mode and full character set display in videotex mode.

4.1. Summary of Features.

4.1.1. Multitasking.

While many communications programs owe their heritage to the IBM world, GPTERM has been specifically designed from scratch for the multitasking environment of the Amiga. Subject to memory constraints, you may run GPTERM as a foreground or background task along with most other Amiga programs, with the exception of programs which use the serial port. (The RS232 modem port is required to be dedicated to one communications task at one time.)

GPTERM will efficiently multitask in background mode. For example, even while you are using a wordprocessor in the front screen, in the back screen, GPTERM may be continually updating a videotex screen, uploading or downloading, dialling a number of remote services, or performing other tasks which do not require your direct attention.

As another example, you may readily access the continually updating Microtex Chatline as a background task and swap screens occasionally to check what's new. Alternatively, you may wish to access the latest stock prices while running a spreadsheet or wordprocessor, then swap data between the two programs. It is easy to save information from GPTERM into RAM: then access it with a wordprocessor and vice versa.

> *NOTE: Because it requires dedicated access to the serial port, the program will not multitask with itself! Nor can you run a printer from the serial port.*

4.1.2. Global Features of both Operating Modes.

. Terminal Configurations

GPTERM has been designed so that you may readily tailor the special features of the program for access to many different remote services. You are encouraged to create a separate configuration file for each service. These Configurations hold all the adjustable parameters of the program.

. Status Line

A status line is shown on the top of the screen for both terminal modes. With minor differences between modes, the status line shows the service name, phone number, baud rate, transfer protocol, videotex pages in store, time on-line and session cost to date.

. **Function Keys**

20 Function keys are provided in the program, accessible from either terminal mode. These may be used to contain your favorite phrases, user names, passwords, or keywords and control sequences to access different parts of a particular service. Alternatively, in terminal mode, the function keys 1-10 may be configured to act as specific hardware function keys (PFKEYS) corresponding to those required by the selected emulation.

. **Screen Colours**

Each operating mode has its own independent set of eight screen colours. You may adjust these to suit your personal preference.

. **AutoDialling**

When used with a 'smart' modem, autodialling of different services is available from all terminal modes. Single or continuous dial of a given service as well as multiple dial is supported. With multiple dial, you may select up to 13 different services and dial each in sequence until a successful connection is established.

Automatic transmission of user access codes may be implemented at the your choice.

4.1.3. Videotex Emulation.

The videotex emulation complies with the full Telecom Viatel specification including eight colour foreground and background, single and double height characters, contiguous and separated graphics, flashing and conceal/reveal attributes.

. **On-Line Mouse**

Viatel or other videotex services may be controlled from the keyboard and numeric keypad in the usual manner. However, GPTERM provides the extra feature of allowing the left mouse button to select numbers directly from the videotex frame. Apart from the initial log-on, Viatel sessions can be controlled entirely with the mouse without ever touching the keyboard.

. **Instant Access Page Keys**

In combination with the 'Alt' key, the program allows you to define a set of 26 'instant access' keys ('A'-'Z') to allow rapid access to your most frequently used Viatel pages. We call these 'MetaKeys'.

. **Automated Transmission of User ID and Password**

You have an option of entering your 10 character user ID (and password if desired) into the 'Set User ID' requester, or defining it as the 'response' string in the configuration. If these have been entered, they will be automatically transmitted on request from the remote videotex service, providing a 'hands free' log-on procedure.

. **Saving Videotex Frames**

An internal memory 'carousel' is provided for you to instantly store and recall up to 99 videotex frames. You may recall any stored frame with a simple 'double-click' of the right mouse button. Carousels of videotex frames may be saved or loaded from disk at any time. Frames may be saved as compressed videotex files, standard ASCII text (for wordprocessing), or IFF pictures. When saving IFF pictures or text files, GPTERM will optionally create disk icons (.info files) for your convenience.

An 'Auto-Log' function even allows you to capture all incoming videotex frames automatically to the carousel (up to the maximum of 99 frames).

. **Hardcopy**

A hardcopy of the current frame may be printed as either a graphic image, in full-colour (subject to the printer in use), or as simplified ASCII text output.

. **Slideshow**

GPTERM provides an easy and convenient method of showing a continuously rotating display of frames from a previously stored carousel or a from a series of carousels previously saved on disk.

Note: A full 'In-House' videotex display system is also available from GP Software for those wishing to set up stand alone displays.

. **Downloading Telesoftware**

A download facility is provided which fully supports all the features of the CET protocol adopted by Telecom's Viatel service. (Icons may also be created automatically for each downloaded file at your choice.)

. **Editing Frames**

For sub-service providers, simple on-screen editing may be performed using the standard Viatel 'escape' sequences. User-designed frames may be subsequently transmitted to the Viatel Editor or other users.

Note: Those requiring extensive videotex editing facilities, should contact GP Software about the full editing package under development.

4.1.4. ASCII/ANSI Terminal Operation.

A comprehensive set of ASCII/ANSI terminal emulations are provided for access to text based services. The full emulations for AMIGA, VT100+, VT52, IBM and TTY have been designed to support all the standard features of those terminal/computer types, including colours, attributes, cursor positioning, screen scrolling and other 'escape' character sequences. By using the Amiga's 'overscan' capability, a full 80 column window is available in these modes.

. File Transfer

File transfer may be accomplished with one of several error checking protocols. These include the popular XMODEM, KERMIT, and PUNTER protocols as well as the newer YMODEM, YMODEM-BATCH, SEALINK, and the brilliant ZMODEM. Multiple file transfer is available with either KERMIT, YMODEM-BATCH, SEALINK or ZMODEM.

'Auto chop' of the file padding to correct AmigaDOS file length operates on all protocols at your option.

The XMODEM transfer also has the option of checksum or CRC (Cyclic Redundancy Check) modes of error checking, permitting file transfers to and from Amiga users, C64/128 users, and various Bulletin Boards.

Direct ASCII transfer of text files is also supported with the option of limiting the line length or waiting for a remote prompt. The control sequences XON, XOFF and BREAK are fully supported.

. **Printer Log**

Text from the screen may be echoed directly to the printer. With this feature you may obtain a complete, or selected, log of the communications session.

. **ASCII Capture**

Both the incoming and outgoing text may be saved ('logged') directly to a file. Once the file has been opened, the user has the option of turning on or off the 'log' at will, allowing selective capture of only those sections of the session as required. Optionally, you may choose to capture all the session characters or strip the various 'escape' sequences to provide a 'clean' ASCII file for later use by a wordprocessor.

. **Chat Mode**

GPTERM simplifies communication sessions between users by providing a special 'Chat' mode. This enables half duplex, adds linefeeds to carriage returns where needed, and also prints the incoming and outgoing text in different colours.

5. GPTERM CONFIGURATIONS.

5.1. General.

Unlike other communication programs, GPTERM does not provide a confusing array of menu options for adjustment of the operational parameters of the program. Rather, to enable rapid adjustment of the various settings for a new service, all the major parameters controlling the terminal 'environment' are presented together in one main and three subsidiary configuration windows. These may be called up at any time, making the job of reconfiguring the program for a new service an easy task.

Separate configurations are designed to be saved on disk for immediate access whenever you desire. We suggest that you name such configurations after the particular service to which they refer, thereby providing a readily accessible 'teledex' or 'phone directory' of services on disk.

In reality, each GPTERM configuration file contains every adjustable parameter in the program. It contains among others

> Terminal emulation, phone number, modem strings, baud rate, parity, word length, stop bits, duplex, linefeeds, cost/minute, ASCII download protocol, ASCII upload speed, line lengths and prompt character, auto-logon strings, definitions for the 20 function and 26 videotex page keys, default file paths, default tools and icon selection, a separate sets of colours for both the VTX and ASCII modes, videotex mouse selection, and videotex slide time, etc.

Remember, once configurations have been created, you may simply double-click the icon from the workbench screen to load GPTERM, reset to the desired configuration, and dial the service.

NOTE: You may not 'double-click' an icon AFTER you have run GPTERM. The program may not be run twice!

To make life easy, you do not have to adjust all the parameters at once. We have supplied a set of sample configurations on the master disk as examples of how to set up GPTERM for different services. Select the one closest to your requirements and adjust only those parameters needed. Save the new configuration back to disk (with a new name) for later use. You may then 'fine-tune' each configuration as required over time.

IMPORTANT NOTE: If you enter your passwords, user-IDs or other confidential information into a configuration, ensure that other people never have access to the file. If others do obtain a copy of the file, they will be able to log-on to services as you using your passwords. You could then be responsible for any expense they incur in your name.

5.2. Displaying the Configuration Windows.

The main configuration window may be accessed from either mode by selecting 'View Configuration' from the 'Project' menu, or by using the menu 'shortcut' of right-Amiga and 'I'. Additionally, when in the ASCII terminal mode, 'double-clicking' the right mouse button ('Double Menu Request', or DMR), will also display the main configuration requester.

Access to the subsidiary areas of the configuration may be obtained by selecting one of the gadgets ('MODEM', 'FILE', 'EXTRA', 'PROTOCOL') on the bottom of the main window.

Alternatively, the subsidiary areas of the configuration may be accessed directly from the appropriate menus or from the main terminal screen by using the 'Help' key in association with the 'shift', 'Alt' and 'Ctrl' keys.

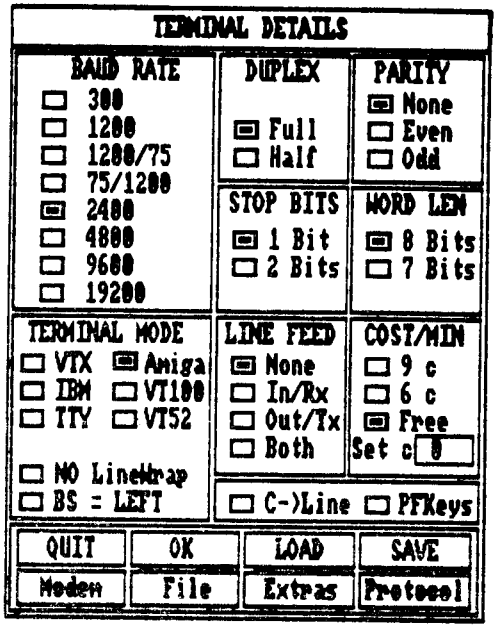
SHIFT-HELP	Displays 'Modem and Service' details. (Also from the 'Phone - Display' Menu)
ALT-HELP	Displays 'Extras' details.
SHIFT-ALT-HELP	Displays 'Disk/File Control' details.
CTRL-HELP	Displays 'Protocol' details. (Also from the 'Transfers-Protocol' Menu.)

When accessed from the main configuration window, any changes made in the subsidiary areas will be cancelled if you select the 'QUIT' gadget in the main requester. On the other hand, you may make selective changes, 'SAVE' the new configuration to disk, then select 'QUIT' to leave the current configuration unchanged.

To select or change one of the displayed parameters, simply click on the item with the left mouse button.

As with all secondary requesters and windows in GPTERM, the main selection gadgets ('OK', 'QUIT', 'LOAD', 'SAVE', 'MODEM', 'FILE', 'EXTRAS' or 'PROTOCOL') may be selected with the mouse or you may simply press the first letter of the gadget text. Pressing the 'Esc' key acts as if you selected 'QUIT'.

5.3. The Main Configuration Window.



The main configuration requester displays the primary controls for the terminal operation. You may select an item with the left mouse button.

5.3.1. Terminal Emulation Modes.

Select the appropriate mode to suite the remote system you wish to contact. Select VTX for videotex, AMIGA/IBM/TTY for text services such as BBSs or electronic mail, or VT100/VT52 for specific terminal emulations for mainframe access.

If you select a terminal mode different from that in the current configuration, the program will immediately swap to the new terminal mode if 'OK' is selected. (*NOTE: Swapping to a new terminal mode will CLOSE any opened capture file.*)

The terminal emulations provide standard emulations of each particular terminal type, including documented and undocumented escape sequences, cursor keys, application keypad and cursor keys where applicable and hardware function keys where applicable. Each emulation is discussed in detail in the Appendix B.

VTX:

Sets to videotex mode.

AMIGA:

Provides a standard AMIGA emulation of 80 columns and 30 lines (PAL mode). All escape sequences for colour and cursor positioning are supported. See Appendix B for details.

IBM:

Provides an emulation of an IBM computer display of 80 columns by 25 lines. All standard IBM escape sequences for colour and cursor positioning are supported. IBM graphics are fully supported by the 'ibm.font' supplied on the program disk. See Appendix B for details.

VT100:

Provides a 'monochrome' VT100/103 ANSI emulation of 80 columns by 24 lines with an added terminal status line on the bottom of the screen. This mode provides an emulation of a TATUNG TVT-6600 video display terminal. Application keypad and application cursors are provided on receipt of the appropriate controls from the remote system. You may need to adjust the 'linewrap', 'backspace', and PFKEYS options as discussed below. The top row of the keypad, keys '(', ')', '/', '*', function as hardware PFKeys if application keypad is enabled. See Appendix B for details.

VT52:

Provides and emulation of a standard DEC VT52 terminal of 80 columns by 24 lines. You may need to adjust the 'linewrap', 'backspace', and PFKEYS options. See Appendix B for details.

TTY:

A simple 'dumb' terminal emulation of 80 columns by 32 lines. No 'escape sequences' or colours are supported.

5.3.2. Special Terminal Settings.

NO LineWrap:

Normally when entering text, when the cursor reaches the end of the line (the 81st column) an automatic 'carriage return' and 'linefeed' is performed to bring the cursor back to the start of the next line. However, on some VT100/52 systems this is not desired.

Setting this gadget will cancel the automatic linewrap feature. The cursor will then 'stick' at the far right hand column of the screen and any text after this position will not be printed until a 'return' is received.

The 'normal' setting is OFF. Providing automatic linewrap at the end of the line.

BS = LEFT:

Determines how the terminal emulation treats a backspace character (ASCII value 8, CONTROL-H). Normally the backspace will be treated as 'destructive', that is, it will delete the character to the left of the cursor. If this gadget is set, the backspace is treated as 'non-destructive', that is, the cursor will simply move left and not delete the character.

The 'normal' setting is OFF. Providing a destructive backspace.

C->Line:

Determines whether the cursor appears as a line or block on the terminal screen.

The default setting is OFF. Providing a block cursor rendition.

PFKEYS:

Determines how the first 10 function keys (unshifted F1 - F10) are treated. When off, (default) the function keys transmit any user-defined strings you have assigned to them.

However, if this gadget is on, the first 10 function keys will transmit the hardware keycodes as defined for the particular terminal emulation. (Except for VTX, IBM and TTY emulations.) See Appendix B for more details.

The 'normal' setting is OFF. Enabling the standard user-defined function keys.

5.3.3. Terminal Parameters.

Baud Rate: (Terminal speed in bits per second or b.p.s.)

Select the baud rate desired. When using a 'smart' modem, you would normally select 1200 for either 1200 full duplex or 1200/75 split baud rates. The modem will buffer your input and output and perform the split baud rate for you. The actual operating baud rate of the modem will then be set by sending the appropriate initialization string to the modem. (See the MODEM configuration below and refer to your modem handbook for details.)

Split Baud Rates.

Several programs have attempted to support split baud rates by effectively doubling the transmission speed. These have proved unreliable. GPTERM has been designed to correctly support split speeds of 1200/75 and 75/1200. A setting of 1200/75 means that you wish to receive characters at 1200 b.p.s. and transmit at 75. (E.G. for Viatel.) 75/1200 means to receive at 75 and transmit at 1200.

These settings ***must only be used*** for a 'dumb' modem or a modem which correctly supports split baud rates, <u>not with 'smart' modems</u>.

> *NOTE: We have certified the split baud rates on the A500 and A1000, however, because of timing problems on the A2000, only 1200/75 will function correctly. (If anyone understands exactly why this occurs, please let us know!)*

Parity:

You may select either None, Even, or Odd. The usual setting for BBSs is None (word length 8 bits). ***For videotex you MUST select Even parity and word length 7 bits.***

Word Length:

Select either 7 or 8 bits. Normally, 8 bits is selected when parity is set to 'None', and 7 bits is selected for 'Even' (most used) or 'Odd' parity. ***For videotex you MUST select Even parity and word length 7 bits.***

Stop Bits:

Select either 1 or 2 stop bits. The normal setting is 1 stop bit.

Linefeeds: (ASCII Mode only.)

In the Amiga, the 'new line' (ENTER) key is interpreted by the console as effectively providing both carriage return plus linefeed. Whereas, in a communications program, the receipt of a single carriage return simply moves the cursor to the beginning of the current line! Many remote services transmit a sequence of carriage return plus linefeed, but it may sometimes be necessary to specifically add linefeeds on receipt of a carriage return character.

A linefeed character may be added either after incoming carriage returns, outgoing carriage returns or both.

Select	None:	Do not add extra linefeeds.
	In :	Add a linefeed character to the screen display on receipt of a carriage return.
	Out :	Transmit linefeed after each carriage return.
	Both:	Add linefeeds to both incoming and outgoing carriage returns.

NOTE: Enabling ASCII 'CHAT' mode will automatically add linefeeds after carriage returns.

Duplex:

The meaning of the term 'Duplex' has become confused when used in connection with communications programs. In our context, duplex (more correctly local echo) determines whether characters typed on the keyboard are echoed by the program to the terminal screen. In most sessions with a remote service, ***full duplex*** is normally used and the remote service will echo back to your terminal screen any characters you type.

When connecting to another user, you will normally have to select ***half duplex.*** Otherwise characters you type on your keyboard will not be echoed to your screen (i.e. you cannot see what you are typing!).

If you set half duplex when full duplex is required, everything you type wwiill aappeeaarr lliikkee tthhiiss.

For Viatel, **full duplex** should be selected except when off-line local editing is required, or when directly connected to another user.

NOTE: Enabling ASCII Chat mode will temporarily override both duplex and linefeed settings.

Cost/Minute:

The status line of both terminal modes shows how long you have been on-line plus the total cost of the session. (In videotex mode, this also includes page and download costs.) The time cost per minute may be set to either 11, 7, or 0 cents per minute (peak and off peak Viatel charges), or other values by selecting 'Set' and entering a cost in cents.

5.3.4. The LOAD Option.

Selection of the 'LOAD' gadget or pressing 'L' will allow you to load a new configuration from disk. The settings in the various configuration requesters will be reset to the new values. Importantly however, these new settings will not be acted upon until you select the 'OK' gadget.. If you select the 'QUIT' gadget, the old configuration will remain unchanged.

In this manner, you may view various configurations, adjust and resave them without changing the current program settings.

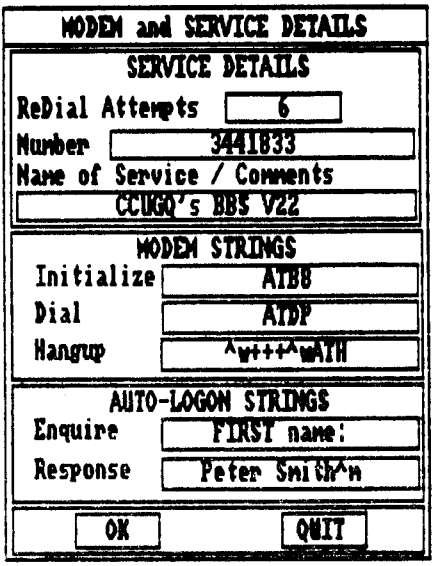
5.3.5. The SAVE Option.

Selecting the 'SAVE' gadget or pressing 'S' will allow you to save the displayed configuration to disk for later use.

We strongly advocate that you save configurations under the name of the service to which they refer. This will expedite operation of the 'Phone - New Number' menu option.

The 'SAVE' option has been designed so that you may change several parameters in the various configuration requesters to create a new configuration for a different service, save it to disk, then select the 'QUIT' gadget and not affect the current program configuration.

5.4. Modem and Service Details.



May be accessed from the main configuration window by pressing 'M' or selecting the 'MODEM' gadget, by selecting 'Display' from the 'Phone' menu, or by pressing SHIFT-HELP from the main terminal screen. Pressing 'Esc', 'Q', or selecting the 'QUIT' gadget will end the requester and ignore any changes made. Selecting the 'OK' gadget or pressing 'O' will accept the changes and enter them in the main configuration.

5.4.1. **Service Details.**

Redial Attempts:

Defines the number of times GPTERM will attempt to dial the same number. Telecom Australia require that only five attempts be made to automatically redial a specific number before operator intervention is needed.

Redial Delay.

So that your phone will not be continuously engaged when multiple dial is in operation, a 15 sec delay is provided between subsequent redials of the same number. Most hayes compatible smart modems will transmit one or more characters to the terminal if a ring is detected. In this case, the waiting will be aborted automatically, allowing you to answer the phone.

When multiply dialling a list of remote services, a delay of approximately 45 seconds is provided on every pass through the list. No delay is used between the different services.

These delay settings are not user adjustable.

Number:

The number to be dialled for the particular service. This must include any STD or exchange codes (such as a 0 to obtain an outside line). You should enter only numbers, except where you wish to add a delay between the exchange or STD codes and the actual number. A delay may be entered either as '^w' (processed by GPTERM) or as a comma ',' which may (!) be processed by your modem. (Consult your modem documentation for more details.)

*NOTE: GPTERM automatically transmits a carriage return following the dial string. **DO NOT add one of your own or the modem may not complete the dial sequence.***

Name/Comments:

A field for you to enter specific details about the service name, sysop name, etc.

5.4.2. Modem Strings.

These strings are used to automatically control the features of a 'smart' modem. Refer to your modem manual before setting these strings.

The 'Initialize' string is transmitted to the modem before a number is dialled, followed by the 'Dial' string plus the telephone number. The hangup string is transmitted whenever 'Hangup' is selected from the main menu.

As an example, the following modem strings are recommended for a NetComm smart modem.

Initialize: ATB0 for V21/V23 depending on baud rate.
ATB6 for V22 (1200 full).

Dial: ATDP for Pulse dial
ATDT for Tone dial.

Hangup: ^w+++^wATH (^w means wait 1 second.)

5.4.3. Auto-Logon Strings.

GPTERM provides a method whereby the program can scan for an incoming string of characters and automatically transmit a response.

It is designed to be used for automatic transmission of a user-ID and password, or user name to a remote service.

For videotex mode, the enquiry string is ignored and the response string becomes your 10 digit user-ID followed by an optional 4 character password. Videotex systems, such as Viatel, send a special 'ENQ' character (CONTROL-E) to request transmission of user-ID and password. Although you may directly enter your videotex user-ID and password directly into the response string of the configuration window, we strongly suggest that you use the menu option ('Extras-Set UserID') from the videotex mode, especially if you are unsure of exactly how this should be done. (Consult 'Setting user-ID and password' in the videotex section below.)

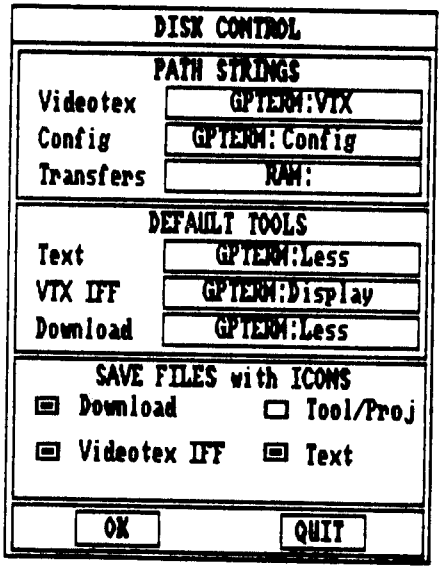
For ASCII mode, you must set the 'Enquiry' string to the exact character sequence the remote system will transmit. (For example, 'First NAME?') Then set the 'Response' string to the character sequence you wish to be transmitted. (For example, John Smith^m.)

Be careful when setting an enquiry string. If, for example, you set the enquiry string to simply 'name', then, every time the word 'name' appeared, anywhere in the incoming text, your response string will be transmitted. Check the system you intend to log on to first. Most systems provide an 'unique' string for such purposes.

CONTROL characters in Enquiry or Response.

Control characters may be included in either 'Enquiry' or 'Response' strings by first entering the '^' (SHIFT-6) character followed by the alphabetic character corresponding to the desired control character. For example, '^m' means carriage return.

Care must be exercised when setting both 'Enquiry' and 'Response' strings. For safety, GPTERM will only transmit the 'Response' string once on receipt of the 'Enquiry' string. At least one intervening character must be received before the program will respond to the same 'Enquiry' string.

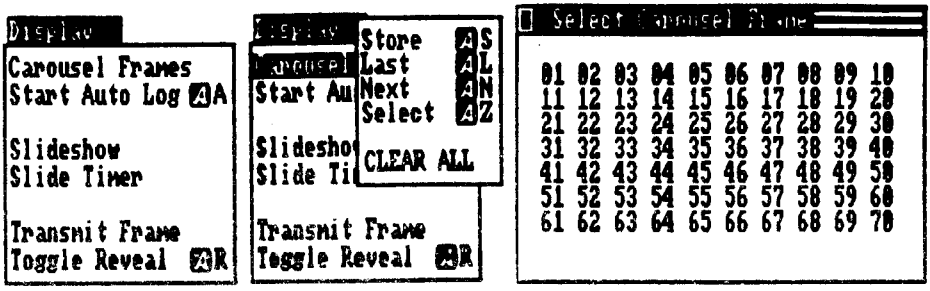


5.5.1. File Path Strings.

In this area you may enter directions to the program as to where to save or locate files associated with file transfer, configurations and videotex frames. The full file path to the required directory should be entered. You should ensure that such directories exist on the disk in question before running the GPTERM program.

9.2. The Display Menus.

Carousel Frames-



The videotex display system in GPTERM consists of a displayed frame plus an internal carousel. This can hold up to 99 frames in storage subject to available memory. You may save the current frame into the carousel or recall and display a frame from the carousel.

The carousel itself operates like a rotating carousel on a slide projector. When you store a new frame in the carousel, it is stored in the next available position at the end of the carousel. You may quickly recall a stored frame with a double click of the right mouse button. Alternatively, you may move forward or backward through the carousel, recalling and displaying frames in turn by selecting 'Next' or 'Last'.

The following sub-menu items allow control of storage and retrieval of videotex frames in the 99 frame internal memory carousel. The options are

Function	Right-Amiga Key	
Store	S	
Last	L	
Next	N	
Select	Z	(Double-Menu-Request)
CLEAR ALL	none	

Selecting 'Store' will save the current frame on the end of the current carousel and update the status line to show the number of frames currently stored. Attempting to store more than 99 frames in the carousel will bring up the requester asking you if you wish to begin overwriting the older carousel frames. If you select overwrite, all subsequent stores or loading frames from disk will begin to overwrite older frames. This will continue until the overwrite switch is re-initialized by

selecting 'CLEAR ALL'.

Selecting 'Last' recalls and displays the next lowest numbered carousel frame. The previously displayed frame is overwritten.

Selecting 'Next' recalls and displays the next highest numbered carousel frame. The previously displayed frame is overwritten.

Both 'Next' and 'Last' wrap-around when the end of the current carousel store is reached.

Selecting 'Select' or double clicking the right mouse button will display a window with the numbers of all the stored frames. Simply click on the number of the frame you wish to display. If no frames are in the store, this option will be ignored.

Selecting 'CLEAR ALL' will delete all frames stored in a carousel and reset the overwrite switch.

> *CAUTION: No warning is given before the carousel is cleared. If you wish to view the frames at a later date, you must ensure that the carousel has been saved to disk before selecting 'CLEAR ALL'.*

Auto Log (A). (Start or Stop)

Auto log enables you to selectively capture ALL or a selected set of frames from a complete videotex session. Frames may be captured to the memory carousel (providing a store for the last 99 frames received.) Once 'Start Auto Log' has been selected, frames will be automatically saved into the next highest carousel position.

If 'Auto-Log' has been enabled the status line will show the word 'LOGGING'.

The paths set in this area provide only the default or original file path. Selecting one of the disk gadgets in the FileIO requester will override these default paths. (See the FileIO requester for more details.)

Videotex: The default file path where videotex frames and carousels may be located. All videotex saves will default to this area. This includes condensed videotex carousels, text and IFF files created from the videotex mode.

Config: The default file path to the directory where you have saved different program configurations.

Transfers: The default directory for both ASCII and videotex file transfers including upload/download and ASCII capture files.

5.5.2. Default Tools.

These gadgets define the 'default tool' setting used in any icon (.info) file associated with the creation of a new file by GPTERM. Under AmigaDOS, the 'default tool' corresponds to the program which a project icon will attempt to run if you double-click the icon. (See your Amiga Users Guide for more details.)

For example, set the 'default tool' for Videotex IFF to call an ILBM picture viewing program (such as the PD program 'Display'), save a videotex frame as an IFF picture, then swap to workbench and double-click the new icon. This will load the program ('Display') and display the saved IFF picture.

You may define the default tools for Text saves (files created by either ASCII capture or videotex text saves), VTX IFF (frames saved with the 'Save frame as IFF' option) or Download (files saved from either the videotex CET or ASCII Download options).

5.5.3. Save Files with Icons.

GPTERM automatically creates icon (.info) files for all configuration or videotex carousels saved to disk. ***You must not delete these from your disk.***

However, when you elect to save files to disk from a download, IFF videotex pictures, or text saves, you may decide whether or not to create an icon for the file. When downloading files, you may also select the type of icon to create, either as a 'Project' or 'Tool' type. (Refer to the Amiga Users Guide.)

When the gadget on the left of the text is highlighted, the icon or setting has been activated.

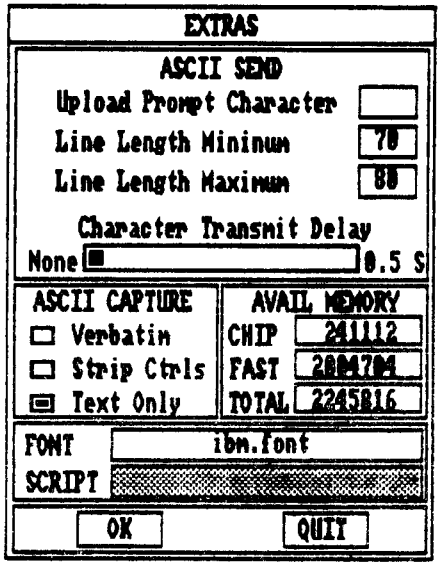
Download: Save icons for all downloads including videotex CET and ASCII protocols.

Tool/Proj: A subsidiary setting for download files. Determines whether any icon created for a downloaded file is defined as a 'Tool' or 'Project' icon type. When selected, a 'Tool' icon will be created, when unselected a 'Project' icon is created. Use 'Tool' if the file is an executable program, 'Project' if it is a text, picture, or subsidiary file.

Videotex IFF: When selected provides 'Project' icons for any frames saved from videotex as IFF pictures.

Text: When selected, creates 'Project' icons for all files created by ASCII Capture or videotex text saves.

5.6. Extras.



The extras requester controls features of the 'ASCII Send' and 'ASCII Capture' options, and the font used for the ASCII terminal. It also displays the amount of memory available in your Amiga at any given time.

5.6.1. ASCII Upload Functions.

Prompt Character:

Define the character for which GPTERM should wait when sending a line of text from disk to a remote service.

When used, 'Prompted ASCII Send' will transmit a line of ASCII text then wait for receipt of the prompt character before sending the next line.

If the remote system does not support this option, or if you do not wish to use prompted upload, set this character to a null (blank).

Line Lengths:

Under some circumstances it may be necessary to restrict the number of characters between carriage returns when sending a text file to a remote electronic mail service (e.g. KeyLink, Minerva). These settings define the length of any given line that the ASCII Send option may transmit without a carriage return.

ASCII Send will transmit characters until it reaches the defined minimum then look for a space character and transmit a carriage return. If no space character is found before the defined maximum is reached, the word is chopped and a carriage return is inserted.

You may select any value between 1 and 999. The maximum must be equal to or greater than the minimum.

*NOTE: If you set either **maximum** or **minimum** to zero or **minimum** to a value less than the **maximum**, 'ASCII Send' will not perform any line chopping.*

Char Transmit Delay:

Applies to ASCII Send file transfer, transmission of function key definitions and response strings. It determines time to wait between transmission of a continuous set of characters.

Some remote systems cannot accept a continuous stream of characters at the full speed defined by the baud rate. (E.G. 120 characters/second at 1200 b.p.s.) It may therefore be necessary to adjust the slider gadget to introduce a small time delay between characters to allow the remote system time to process the incoming data. This may be adjusted between zero and 0.5 seconds. Setting the slider to one quarter should be ample for most circumstances.

5.6.2. ASCII Capture Options.

These gadgets control the capture of text from any ASCII/ANSI terminal emulation.

Normally, you will require that only the actual ASCII text characters be saved to the capture file and any control characters of escape sequences (controlling colours or cursor movements) be stripped. In this manner, the resulting file can be loaded into any standard text or wordprocessor for editing.

For compatibility with the Amiga, all incoming 'carriage returns' are also stripped. Here we assume that the remote system send the sequence of 'carriage return' followed by 'linefeed'. Normally, the Amiga treats a 'linefeed' as meaning 'newline', i.e. 'carriage return' plus 'linefeed'.

However, also provided are the options for capturing all the incoming/outgoing characters or stripping just the control characters.

The gadgets are mutually exclusive (you may only have one on at once). To select one of the options, highlight the gadget with the left mouse button.

The options are

Verbatim: Do not strip anything! Copy all the incoming and outgoing characters to the capture file. (This mode allows you to, for example, capture an exact copy of a graphics display and either replay it or transmit it to another user. This may be done setting half duplex and performing an 'ASCII SEND - VERBATIM'.

Strip Ctrls: Strip only those characters defined as control characters. This means strip any character whose ASCII value is below decimal 32 except a 'linefeed' character (value 10) or a 'tab' character (value 8).

Normal: This mode will attempt to strip anything that is not standard ASCII text. It will strip all control characters except a 'linefeed' or 'tab' character, and will attempt to strip any of the standard 'escape sequences' from the incoming data to provide a 'clean' text file.

5.6.3. Font.

Selects the name of the font used in the ASCII terminal mode. If you change the default font to a disk font, you must ensure that the particular font is actually in the directory assigned to FONTS:. (Or you must re-'ASSIGN' FONTS: to the correct directory.)

The actual font name must be one recognized by AmigaDOS and Intuition (i.e. it must be in the form 'fontname.font').

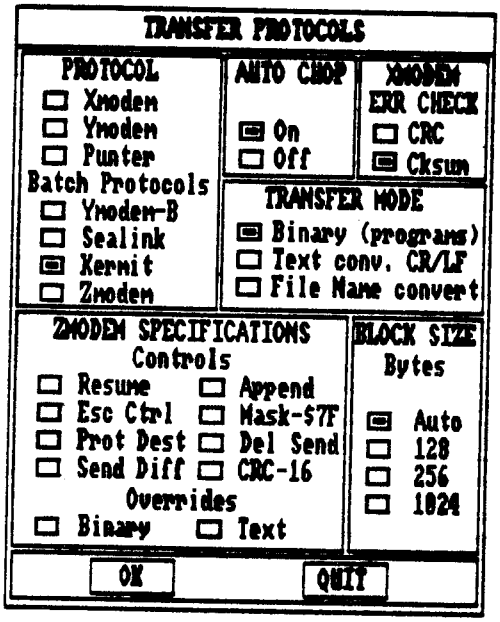
Only eight (8) pixel fonts are allowed.

When using the IBM terminal emulation, GPTERM automatically changes the font to 'ibm.font' to provide a full standard ibm character font including 8-bit graphics characters. If you had set a font for another emulation, it is stored and will be reset if a different terminal emulation is chosen.

Initially, when you select the IBM emulation from the configuration, you have no choice as to the font used. The program will always select the 'ibm.font'. However, once the IBM emulation is up and running, you may change the font if you desire.

Of course, you may use the 'ibm.font' for any of the other ASCII/ANSI terminal emulations if you desire.

5.7. Protocol. (Only applies to ASCII mode.)



For ASCII mode only, you may select the error correcting file transfer protocol best suited for a particular service. Selecting 'Upload' or 'Download' from the 'Transfers' option in the main menu will then immediately enter this selected mode.

In videotex mode, the protocol is automatically set to the standard CET download protocol as adopted by Telecom's Viatel service.

The following file transfer protocols supported by GPTERM in the ASCII terminal mode.

XMODEM:

A popular 'general-purpose' transfer protocol which transmits the file in blocks of 128 characters with either one or two bytes of error checking. Either checksum or CRC (Cyclic Redundancy Check) modes are available as set in the 'ERROR CHK' below.

Select CRC for normal use; this will default to checksum as required. On some Commodore specific BBSs, however, you will need to select checksum mode in preference.

This protocol uses file padding (Ctrl-Zs or spaces) when transmitting the last block of a file. (To pad out the block to 128 characters.) Because this often causes problems on the Amiga, our version of XMODEM will attempt to automatically chop off such padding when receiving a file. (Depending on the setting of 'AUTO CHOP' as below.)

The 'Transfer Mode' options of 'Binary' and 'Text' apply.

YMODEM:

Exactly the same protocol as XMODEM except that 1024 byte blocks can optionally be used. If AUTO block size is selected then 1024 byte blocks are used. The receiving end knows which block size is being sent and adjusts automatically. If 1024 or 128 block size is selected then that block size is used, 256 byte block size is ignored. The 'Auto Chop' and 'Transfer Mode' functions apply.

PUNTER:

A protocol developed by Steve Punter, so far specific to the Commodore world. Transmits a file in blocks of up to 248 characters with four bytes of error checking. (CRC and checksum do not apply to PUNTER. In fact both are used.)

This protocol is at best 3-5% slower than XMODEM although does theoretically have better error detection. However, on most telephone lines, if XMODEM will not work, PUNTER will probably not be any better.

'Auto Chop' function may be used if desired but is normally not necessary since this protocol does not use any file padding. However, padding may have been applied if the file had been uploaded to the remote system using a different protocol. 'Transfer Mode' options of 'Binary' or 'Text' are not used.

YMODEM-B:

YMODEM-Batch is exactly the same as XMODEM except that the file name is transferred in Block #0 and multiple files can be transferred in a single transfer session. This protocol is useful for transferring lots of files to/from a CP/M system running YAM. When receiving, you do not set the file name, this is done by the transmitting program.

SEALINK:

A streaming protocol similar to XMODEM but capable of transmitting multiple files in the one session. With the capacity to transmit up to six blocks of data before waiting for an acknowledgement from the other end, this is one of the fastest protocols, except for ZMODEM, when using a noise free telephone line. ('Binary' or 'Text' options do not apply. 'Auto Chop' is available if required.)

KERMIT:

A popular protocol for university UNIX systems. Fundamentally, the protocol was designed to transmit files between any computer over 'packet' or 'LAN' networks. This is a 'packetised' protocol with various packets transmitted back and forth between the sender and receiver during the course of the transfer. Each transmitted packet is designed to contain only 'printable' ASCII characters, all control characters are encoded by the protocol to ensure there are no stray control characters to upset any underlying network commands.

All standard KERMIT features are implemented as described in the source information available on most UNIX/VAX systems from Columbia University.

Also implemented is 'repeat character encoding' and 'long block' length. These are automatically initialised to and from the remote system by the initial handshake sequence. KERMIT usually uses a data block size of approximately 94 characters but the 'long' block option of 1000 characters is supported by GPTERM, as decided automatically by the initial handshake sequence.

The 'Transfer Mode' options are primarily designed for this protocol. Please consult the KERMIT manual on your remote system. It is your responsibility to set the correct 'Binary' or 'Text' options on the remote system.

ZMODEM:

A modern file transfer protocol designed by Chuck Forsberg. It is an intelligent, streaming, batch protocol that offers state of the art performance over normal phone lines as well as packet switched networks.

ZMODEM has its own set of controlling options. For most transfers, leave all gadgets unselected. For full details on ZMODEM, refer to the Appendix C.

Transfer Mode.

These settings control the operation of XMODEM, YMODEM, YMODEM-Batch, and KERMIT protocols. They are designed to maintain the integrity of files between different computer types. See Appendix C for more details.

Binary (programs):

Treat the file as a program file and send or receive as is.

Text conv. CR/LF:

Treat the file as a standard ASCII text file. Convert 'carriage return' and linefeeds characters accordingly. When a CR character is encountered, add a linefeed (LF) after the CR character on transmit, and strip the CR and replace it with a LF in receive. This is designed to make a text file transmitted from one type of computer have the correct format for the receiving computer and vice versa. E.g., a text file transmitted to an MS-DOS system will have Carriage returns added before every Linefeed character and a CONTROL Z character appended to the end of the file.

File Name Convert:

Convert to file name to UPPERCASE. A switch designed for some UNIX systems.

XMODEM Error Check:

Applies only for XMODEM protocol. Select either checksum or CRC (Cyclic Redundancy Check). If CRC is selected and the other end does not support this, then GPTERM will fall back after about 30 seconds to checksum mode. CRC mode offers better data integrity than checksum.

Auto Chop:

Many transfer protocols, for example XMODEM, require the file to be transmitted and received in blocks of a given length (for example, 128 characters for standard XMODEM). Padding is added to adjust the length of the original file to make up a number of complete blocks. Some XMODEM protocols will also add a complete block of padding if the original file finishes on a block boundary.

GPTERM will automatically delete such padding if 'AUTO CHOP' is enabled. Usually, 'AUTO CHOP' should be enabled, especially when transferring programs between Amigas, otherwise downloaded programs may not satisfy the AmigaDOS file specification and therefore not load or run. (AmigaDOS errors such as 'not an object module' are often caused by this extra padding.)

GPTERM caters for two types of file padding, both spaces (as often used in the C64/128 world) and the CONTROL-Z characters from the MS-DOS, CPM world. GPTERM has been specifically designed to transfer programs between Amigas, Amiga-C64/128, and Amiga-'other'. This facilitates downloading of programs from the many Commodore specific BBSs around the country as well as transfers between the C64/128 version of GPTERM and the Amiga version.

Auto Chop is designed primarily for XMODEM type protocols. However, if a file has been uploaded to a remote system using a standard XMODEM file padding protocol, the file may have been padded with some rubbish at the end. Select 'Auto Chop' if in doubt and GPTERM will attempt to chop the file to the correct length as required by the AmigaDOG file system.
Turn this gadget OFF if transferring files that are NOT AmigaDOS executable programs.

NOTE: If the filename being received has an extension of either .ARC or .ZOO this option will be automatically disabled.

Auto Chop with ZMODEM.

If transfers are being made from one GPTERM to another, this gadget should be left off. ZMODEM automatically transmits the correct file length. If however a program is being downloaded from a Bulletin Board, and someone MAY have uploaded it using XMODEM, YMODEM etc, then this gadget should be left ON. The padding left by the 'uploading' program will need to be removed in this case. This option is ignored if transmitting.

Block Size:

Select the appropriate block size for the transfer. For normal use, select 'Auto'. This allows the protocol itself to select the best block size for the conditions.

Use with ZMODEM.

If this gadget is left in the AUTO position, ZMODEM will make some reasonable assumptions about the block length depending on the baud rate being used. If the baud rate is 300 then 128 byte blocks are used. If the baud rate is 1200 then 256 byte blocks are used, and if the baud rate is greater than 2400 then 1024 byte blocks are used. You can however, override the auto setting and select whichever block length you wish. This option is controlled by the transmitting end only, it is ignored by the receiving end.

6. THE FILEIO REQUESTER.

Acknowledgement.

This file requester was developed from code supplied into the public domain by R.J.Mical. We thank him for showing us the way.

6.1. General.

Many of the features of GPTERM require loading or saving files and subsequent disk access. For simplification, the same general FileIO ('File Input Output') requester is used in all cases, with minor changes to reflect the specific operational mode.

When the FileIO requester is called, it will display a list of the files available for that operation. Usually, files of a specific file type will be required. (The 'file type' is contained in the disk icons associated with each file.) File types used by GPTERM include VTX files, containing saved videotex frames, and CONFIG files, containing terminal environments. These must have been previously saved from within GPTERM.

> *NOTE: Do not delete the .info files from the VTX or CONFIG directories. GPTERM looks for these in order to determine the file type and build the list of available files.*

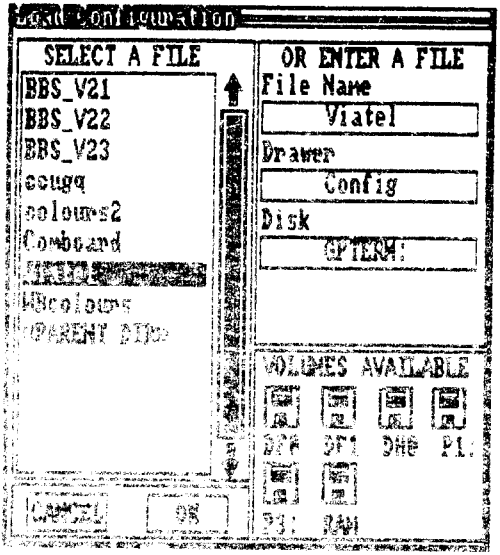
You may set the default path name (Volume and Directory name for disk access) for VTX, CONFIG, and file transfer or capture, by adjusting the settings in the 'Disk Control' configuration area. This default path is used for the whole session unless you choose otherwise.

On first access to the FileIO for either VTX, CONFIG, or transfers, the program will scan the directory for the required file icons and build a table in memory. With a floppy drive, this first access may take a few seconds. However, unless you select a different path, or swap disks, all subsequent accesses will operate immediately from this memory list and not require further disk access.

Since the FileIO requester is displayed in its own independent window, you may activate either the main terminal window or the FileIO window with the mouse. For example, while on-line, you may call up the transfer window and set up the file name and path for an XMODEM transfer, then click back to the main terminal window to issue instructions to the remote service. When you are instructed to begin transfer, simply click the 'OK' gadget on the FileIO to start immediate transfer of the file.

The FileIO requester is designed to work most efficiently if you select items using the mouse, although you may type in the disk, directory or file names if you prefer.

6.2. Using the FileIO Requester.



The picture above shows the FileIO requester for loading a configuration file. On the right are disk icons for floppy drives df0 and df1, hard drives ah0, 'P1' and 'P3', and the RAM disk. The large window on the left shows the files in the Config directory of the GPTERM disk.

No Waiting!

When selecting any of the features in the FileIO requester, you do not need to wait for the display to stop. You may simply click the file name or directory (or gadgets) you require as soon as it becomes visible. To this end, the 'busy' mouse pointer has a small arrow on the top left, allowing you to accurately position the mouse.

Clicking the mouse outside the window on the left will stop the window display and cease scanning the directory list.

A double click on a file name, or clicking on the 'OK' or 'CANCEL' gadgets, will terminate the requester and either accept the selected file path or cancel the operation.

6.2.1. Selecting a Volume (or Disk).

You are presented with up to eight (8) disk icons on the bottom right of the requester. These icons represent the disks or hard disk partitions currently available from AmigaDOS. Select the icon corresponding to the volume

required.

Alternatively, you may select the 'Disk' string gadget and type in the disk or volume name required.

(Only volumes in the AmigaDOS system list are shown. That is, devices automatically mounted by 'herdware' or specifically with the 'MOUNT' command and accessed ('CD') at least once appear in this list.)

The requester path will remain set to the volume/directory between calls. However, GPTERM detects if you insert or remove a disk. In such cases, the requester path will return to display the root directory on the selected volume.

6.2.2. Selecting a Drawer (Directory)

In the large window on the left, directories are shown in green while files are in red. You may select a directory by clicking on its name with the left mouse button. Clicking on <<Parent Dir>> will take you back up the directory tree.

Alternatively, you may select the 'Drawer' string gadget and type in the name of the directory required.

6.2.3. Selecting a File Name.

When you enter the FileIO requester, the 'File Name' string gadget is activated immediately, allowing you to directly type in the name of the required file. To enter a new name, simply type in the name and press <enter> to select the full path as displayed.

Alternatively, you may select a file name from the main window on the left. File names are shown in red, directories in green. Single-click on a name to highlight it and transfer the name to the 'File Name' string gadget, or double-click the name to select.

If you wish to select a different volume name (disk) or drawer (directory), follow the procedure above *before* you enter or select the file name.

6.2.4. Multiple File Selection.

In most cases, you may only select one particular file name at one time. However, under special circumstances, you are allowed to select up to 13 different file names at once. All the files selected are then passed to the particular operation.

Multiple file selection is available for dialling several services from the menu option 'Phone - New Number', as well as for selecting multiple file names when uploading files using the YMODEM-Batch, KERMIT, SEALINK and ZMODEM protocols.

When multiple file selection is available, the 'File Name' string gadget will be 'ghosted'; you will be unable to directly type in a file name. You may highlight the file name(s) required with a single click of the left mouse button. A double click will terminate the selection process and accept all the names highlighted.

Pattern Matching.

During multiple file selection, an extra string gadget with the heading 'or Enter a Pattern' will appear. You may use the standard AmigaDOS pattern matching sequences to select multiple files. (Refer to the AmigaDOS manual for full details of how to use pattern matching.)

For example,

nam#?	will select all files beginning with the three characters 'nam'.
#?.wp	will select all files ending in the three characters '.wp'.
#?pic#?	will select all files which include the three characters 'pic' somewhere in the file name.

BATCH File Transfer Protocols.

When receiving files using with one of the batch transfer protocols, for example, ZMODEM, YMODEM-Batch, KERMIT and SEALINK, you only need to select the directory in which to place the incoming files. (In fact, you are only allowed to select the directory! If you select a particular file name it will be ignored.)

All the batch protocols transmit the name of each file before sending the file itself. This name will be used for storing the file on your system or the remote system. In this manner, multiple files may be transmitted by this protocol. Simply highlight the various file names you wish to transmit (with a single click of the left mouse button), then select 'OK' to begin the transfer.

WARNING: Be careful not to double-click a file name or you will automatically start the transfer process.

7. COMMON MENU FUNCTIONS.

GPTERM has been designed so that as many menu options as possible are shared between the two terminal emulations. But, because of the different requirements for the two terminal emulations, each mode provides a slightly different menu layout.

The common menu items shown below with their associated 'right-Amiga hot keys' appear in main menus of both the ASCII and videotex terminal modes. (See Appendix A for a summary.)

Common Menus are

Project		Phone		Extras
View Configuration	(I)	Dial	(G)	Colours
Load Configuration	(J)	Hangup		Function Keys
Save Configuration	(K)	Display		Clear Clock
.		New Number	(T)	
Swap to ASCII/VTX	(X)			
.				
About				
Quit	(Q)			

7.1. Common Project Menus.

7.1.1. View Configuration. (I)

Displays the main configuration requester, allowing you to change the operating parameters of the program. Also allows access to the subsidiary configuration areas of 'Modem', 'Disk/File Control', 'Extras' and 'Protocol'. See the configuration section above for more details.

7.1.2. Load Configuration. (J)

Displays the FileIO requester allowing you to load a new program environment from disk. See the configuration section above for more details.

> *NOTE: If the loaded configuration is set to a different terminal type, the program will immediately swap to that mode.*

7.1.3. Save Configuration. (K)

Saves the current configuration to a disk file. See the configuration section above for more details.

7.1.4. Swap Mode. (X)

Selecting this option will swap the operation of GPTERM between videotex and terminal emulation modes. The main terminal parameters such as baud rate, parity etc. ***are not affected*** by swapping modes, but the screen colours may change depending on the settings within a particular mode.

Videotex - ASCII: Swapping from videotex to ASCII mode does not destroy either the currently displayed page nor any pages saved in the carousel. However, such videotex frames cannot be accessed from the ASCII mode.

On return to videotex mode, the previously displayed videotex page will be redrawn.

ASCII - Videotex: Swapping from ASCII mode to videotex will automatically close any ASCII capture file before swapping modes. If the printer had been on-line at the time, it will remain on line until you return to ASCII mode, but it will not log characters direct from the videotex mode. Note that on leaving the ASCII mode *all text on the terminal screen will be lost.*

7.1.5. Quit to Workbench. (Q)

Selecting 'Quit' will first request confirmation. If confirmed, it will exit GPTERM and return all allocated memory to the Amiga. All information within the program, such as a videotex carousel or configuration settings will be lost if it has not been saved to disk. ***If you wish to preserve videotex frames saved in the carousel, or particular configuration settings, you must ensure that the information has been saved to disk before 'Quit' is selected.***

You may respond to the quit requester by selecting either gadget or by pressing 'Y' or 'N' or 'Esc'.

7.2. Common Phone Menus.

The dial menu allows you to either dial the number as defined in the configuration, load new numbers, display and change the current settings, or hangup the phone. (Smart modem only.)

Single or Continuous Dialling.

With both the 'Dial' and 'New Number' options, you may select a sub-option of single or continuous dialling. **Single** dialling means that the selected number will be dialled only once. **Continuous** dialling means that the number will be dialled repeatedly until connection is established, up to the maximum number of redials as defined in the 'Modem' configuration area.

7.2.1. Dial - Single (D) or Continuous.

Selecting 'Dial' with the sub-option 'Single' (G) or 'Continuous' will immediately begin dialling the number defined in the current configuration.

It will initiate the dialling sequence as defined in the 'Modem' configuration. The sequence is designed to work with any 'smart' modem. You must ensure that your modem is turned on and off-line (no carrier) before attempting to dial a new number.

This dial sequence involves first transmitting the modem 'Initialize' string, pausing for one second, then sending the 'Dial' string followed by the telephone number, and ending with a carriage return. A 'smart' modem will then dial and attempt to connect to the remote service.

If a connection is established, the status line connect time clock will be zeroed and will provide a record of the time connected to this service. The status line session cost will also detail the cost of the session, subject to the cost/minute setting in the configuration. (For videotex mode, the status cost also includes the page costs.)

After transmitting the dial sequence, the program waits until

it detects a 'carrier' signal from the modem or until the modem transmits characters signalling no connection. With this method, the actual time the program waits for connection will be determined by the modem itself. (For Example, with a NetComm modem, the internal register, 'S7' defines the time, in seconds (usually 30 secs) that the modem will wait for carrier. *It is your responsibility to adjust your modem accordingly.*)

Although it is possible to command a 'smart' modem to dial by directly by typing a command sequence from the keyboard, this is not recommended since the program will not be able to correctly set the time and cost.

You may abort the dialling at any time by clicking the 'Abort' gadget or by pressing the 'Esc' key.

> *NOTE: With some modems, if you select 'Abort' immediately after the dial sequence has been transmitted, the modem will ignore you! If this occurs, press the 'Return' key a few times from the terminal mode or select 'Phone - Hangup'.*

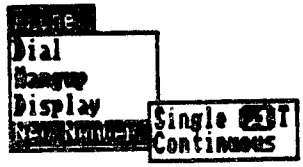
7.2.2. Hangup.

Selecting 'Hangup' will transmit the hangup sequence as defined in the configuration. We have initially set this to a standard sequence of '^w+++^wATH'. (Which means wait one sec, send '+++', wait one sec, send 'ATH'.) You may have to adjust this sequence to suit your modem.

7.2.3. Display.

Displays the 'Modem' configuration requester allowing you to change parameters associated with the dialling strings or phone number.

7.2.4. New Number. Single (T) or Continuous.



Selecting 'New Number' with the sub-option 'Single' (T) or 'Continuous' will initially display the FileIO requester in the currently selected CONFIG directory. You may select the name or names of services you wish to dial with the mouse. (A single click of the left mouse button on the name of the required service highlights it. A 'double click' will end the requester and initiate dialling of the services highlighted.)

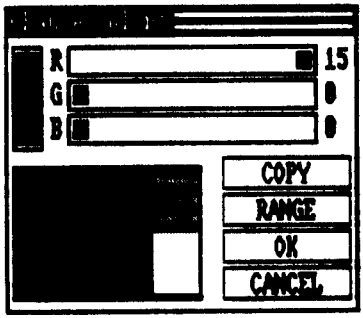
GPTERM will load the new configuration (or multiply selected configurations in turn), adjust all parameters, including terminal type and baud rate, and then initiate the dialling sequence.

Dialling a List of Services.

As discussed above, you may multiply select a number of different services from the FileIO requester. This allows you to, say, select five services, and dial each of them in turn until one answers. If the menu sub-option 'Single' has been selected, each service will be dialled once. If 'Continuous' has been selected, GPTERM will dial each service once in turn, then start again at the top of the list. This will repeat for the number of 'redials' set in the configuration or until a connection is established.

7.3. Common Extras Menus

7.3.1. Colours.



The colour requester allows adjustment of the eight (8) colours used in the videotex or ASCII modes. Both modes have an independent set of colors which may be selectively changed to suit your particular terminal requirements.

Videotex uses a predefined set of eight (8) colours. We do not recommended that these be changed from the default settings when accessing Viatel, since this will alter the frame display in a manner not envisaged by the frame designers! Try it just for fun anyway.

In ASCII mode, the default settings use the following colours.

Colour	Where Used
Black	Screen and status line text.
Red	Status line, borders, requester borders and text.
Green	Menu and Requester highlights.
Yellow	Outgoing text (CHAT Mode), requester text.
Blue	Requester highlight.
Tan/Magenta	Unused.
Cyan	Status Highlights, Menu text, requester text.
White	Primary text and cursor colour, requester text.

If you change the ASCII mode colours (which obviously you will!), be careful to choose colours which are compatible with each other. We have attempted to use the same colour in the same context for the various windows and requesters. However, if you change a colour you may find that, for example, the menu highlights or some requester text may blend into the background colour and become indistinct or even unreadable. We suggest that you adjust the colours one at a time and check your results after each change. In this way you can arrive at a compatible set of colours which suit you.

As a guide, we have included a couple of configurations on the master disk with different colour sets for your perusal.

For complete compatibility with the IBM emulation, colours should be set exactly as in the videotex mode.

Adjusting Colours.

To make colour adjustments, select the colour desired and move the slider controls to adjust the percentage of Red, Green, and Blue to create the desired colour.

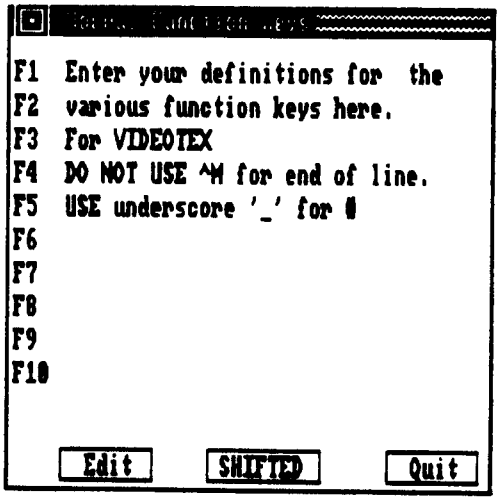
OK	Quit and accept all changes made.
CANCEL	Quit and restores the original colours.
COPY	Copies one colour to another. Select a colour, then select COPY, then select the colour to be changed.
RANGE	Allows colours to be ranged between two colours. Select RANGE, then select the first colour then the last colour. The intermediate registers will be adjusted to range between the two selected colours.

7.3.2. Clear Clock.

Selecting 'Clear Clock' from either terminal mode will reset the connect time to zero. This will also zero any accumulated page costs for that terminal mode.

This option is provided primarily for the user who dials a number from the keyboard so that the correct connect time can be maintained. *The clock will function only while a 'carrier' signal is being detected from the modem.*

7.3.3. Function Keys.



The function key window may be displayed by either selecting the 'Extras-Function Key' from the menu, or by pressing 'HELP' from the ASCII mode. (HELP from the videotex mode displays the ALT-key definitions.)

A string of up to 34 characters may be assigned to each of the 20 function keys, 'F1' - 'F10' and SHIFTED 'F1' - 'F10'. Once a character sequence has been assigned to a particular function key, pressing that function key will transmit the defined character string. (Providing the PFKEY has not been set in ASCII mode.)

Alternatively, if the definitions are displayed, a single click on the text associated with a key will transmit it. In

videotex mode, the function key window will disappear after the string has been transmitted. In ASCII mode, the window will remain until you select either 'Quit' or the close gadget.

Programmed Function Keys (PFKEYS)

If you have set the 'PFKEY' gadget in the main configuration requester, for any emulation except videotex, IBM or TTY, pressing function keys F1 - F10 will transmit the specifically defined Programmed Function Key code corresponding to that emulation. (See the Appendix for details of the various terminal emulations.)

NOTE: In VT100 mode, the top row of the keypad on the A500/2000 may also operate as PFKeys, depending whether 'application keypad' has been enabled by the remote system.

However, in all cases, the 10 shifted function keys are still available to you to transmit you user-defined character strings.

Editing Function Key Definitions.

To edit any of the definitions, first select the 'Edit' gadget. The border will change to yellow and an edit box will appear in the bottom of the window. To edit a particular definition, select the text to be edited with the left mouse button, enter the new definition and press 'Enter'. Once you have made all the desired changes, select 'Accept' or 'Cancel'. (Remember to save the configuration if you wish to preserve the definitions for later use with this service.)

Control characters may be included in the function key strings by entering the '^' (SHIFT-6) character then the alphabetical character corresponding to the desired control code. For example, '^m' represents carriage return; '^l' represents CONTROL-L or clear screen; '^j' represents linefeed (CONTROL-J).

ASCII Mode Use of Function Keys and the Mouse.

As discussed, character strings associated with function keys can be transmitted by pressing the function key itself, but, importantly, can also be transmitted by clicking the text definition from the function key window. This can be utilised to great effect when on-line.

Because the function key window is independent of the main screen, it can be displayed and moved 'out of the way' to the top right of the screen, all without affecting normal keyboard operation. (All keyboard input will go to the main terminal screen unless 'Edit' is selected.) The function key definitions are then permanently on display for your use. For example, if you define function key definitions for the main commands of a service, you may sit back and use the mouse to select whatever commands you require.

NOTE: Menu operations are suspended while the function key window is being displayed.

8. THE ASCII TERMINAL MODE.

The ASCII terminal mode is provided to access text based services such as BBSs, electronic data base services such as STARS, and electronic mail services such as Keylink and Minerva.

This mode has been designed to emulate a number of specific terminal types. You should set whatever terminal emulation best suits the remote system you plan to access. Generally, the AMIGA emulation will provide most of the features you require but it does not support all of the VT100/ANSI or IBM/ANSI screen control commands.

The text display is fully capable of maintaining integrity with the incoming data stream up approximately 9500 baud. For safety, above 4800 baud, CPTERM performs automatic XON/XOFF flow control to prevent loss of data.

[illegible] specific details on the data and [illegible] supported by the various terminal emulations. [illegible] summary.

[illegible] Emulation.

[illegible] emulated all the features found therein. All but the most obscure 'console device' features are supported including colours and standard ANSI features. When used with [illegible] type BBSs a full colour display is possible along with control over screen positioning. Graphics compatibility with the OPUS systems will not appear unless you use the 'ibm.font' as supplied on the release disk in the fonts directory. You may, however, use any other font

The PFKEYS gadget in the main configuration requester determines whether user-defined function keys F1 - F10 transmit user strings or standard Amiga function key codes. See the Appendix B for a detailed description.

IBM Emulation.

The IBM emulation has been implemented to provide compatibility with some of the many OPUS BBS systems which provide graphics and colour displays to an IBM ANSI standard. An 8 colour, 80 column by 25 line display is available. The only major feature not implemented is flashing characters, italics is used instead. This emulation may be used be used to access a remote IBM compatible machine.

IBM cursor and function key codes are not supported.

VT100/VT52 Emulation.

Theses emulations are designed to support the full range of command structures as found on any VT100/52 compatible Video Display Terminal. The emulation is actually based on that as provided by a TATUNG TVT-6600 VDT. Most of the ANSI X3.41 and ANSI X3.64 data and command structures are supported.

Both of these emulations provide a 'monochrome', 80 column by 24 line display with an added terminal mode status line on the bottom of the screen (line 25). Flashing characters, inverse video and inverse screen, scrolling regions, insert/replace, application keypad and cursors are fully supported. VT100 special character and line drawing character sets and not supported directly but may be implemented by selecting the appropriate font.

TTY Terminal.

If all else fails, a 'dumb' terminal (teletype) is also provided. This 'monochrome', 80 column by 30 line display does not support any escape or control sequences.

The ASCII Status Line.

The status line for the ASCII mode is always displayed on the top line of the screen.

Starting from the right, the status line shows:-

- The on-line time and session cost.
- The word 'LINE' when a 'carrier' signal is being detected from the modem. A blank if there is no 'carrier' signal).
- The word 'LOG' if an ASCII capture file is open and data is being saved to a file or 'zzz' if capture has been stopped. A blank if capture is off.
- The word 'CHAT' if the 'CHAT' mode is in operation. A blank if not.
- The current duplex, parity, word length and stop bits as four characters followed by a single character showing the selected protocol. For example 'FN81Z' means full duplex, no parity, word length 8, 1 stop bit, and ZMODEM protocol.
- The currently selected baud rate.
- The current phone number and name of the configuration file in use.
- The currently selected terminal emulation.

The status line is updated every second or more frequently when on-line. Cost is updated every minute. Time and cost update are suspended when transferring files but are maintained correctly internally.

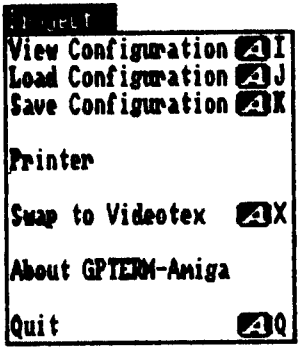
When off-line, the status line is updated only periodically.

The Menus.

The ASCII mode is controlled from the menus in conjunction with their associated 'hot-keys', plus a number of special requesters and windows.

The ASCII mode shares a number of common menus with the videotex mode. For information on these see above.

8.1. The Project Menus.



View Configuration. (I)

Displays the main configuration window allowing you to change the operating parameters for various terminal modes. Refer to the configuration section above for more details.

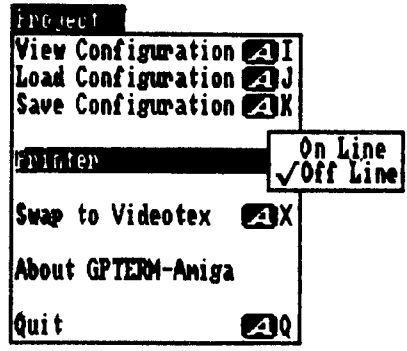
Load Configuration. (J)

Loads a complete program configuration from disk. The new configuration is acted on immediately. If videotex terminal mode is set in the loaded configuration, the program will immediately swap modes. Refer to the configuration section above for more details.

Save Configuration. (K)

Saves the current configuration to disk. Refer to the configuration section above for more details.

Printer.



From the sub-menu, turns the printer on or off. When on-line, the printer will be sent characters as they appear on the screen. Non-printable characters, extra linefeeds and extraneous control characters are stripped from the output.

Swap to Videotex. (X)

Closes any open ASCII capture file and swaps to videotex mode. See Common Menus above for further details.

About.

Provides details on the authors of this program.

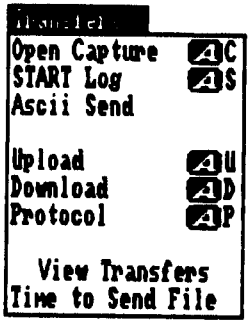
Quit to workbench. (Q)

Quits GPTERM. See Common Menus above for further details.

8.2. The Phone Menus.

See Common Menus above for further details.

8.3. The Transfer Menus.



Open/Close Capture. (C)

Displays the FileIO requester so you may open a disk file to 'log' all the incoming and outgoing characters from the current session.

If a capture file has already been opened, the menu option changes to 'Close Capture'.

Once a file has been opened, the capture is automatically turned on and all incoming and outgoing text is saved to the file. You may selectively turn on or off the 'log' at any time with the 'START/STOP Log'option.

START/STOP Log. (S)

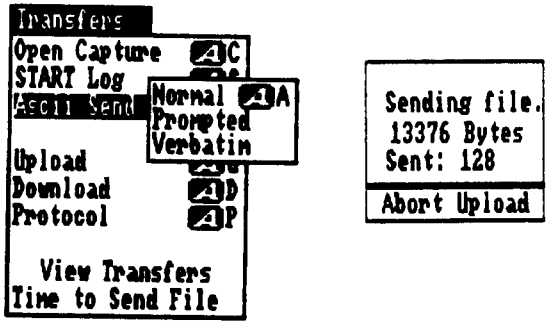
Once a capture file has been opened, this switch determines whether data is actually logged to the file. You may rapidly select 'START Log' or 'STOP Log' from the menu (or by using the shortcut 'right Amiga key' and 'S') so that only the particular information you desire is logged to the file.

When capture has been opened and data is being saved, the word 'LOG' appears on the status line in a highlighted colour.

If a capture file has been opened and the log temporarily halted using the 'Stop Log' option, the characters 'zzz' will appear on the status line in a highlighted colour. This informs you that you still have the capture file open, but that nothing is actually being saved to the file at the moment.

You may re-start the log by selecting 'Start Log' or permanently close the log file by selecting 'Close Capture'.

ASCII Send. Normal (A), Prompted or Verbatim.



Reads a specific file from disk and transmits it directly, character by character, to the remote service. A delay between each character may be added if required according to the 'Character Transmit Delay' setting in the 'Extras' configuration area.

Normal.

ASCII Send will transmit characters from the file directly to the modem subject to the following:-

> The length of each line between carriage returns is defined by the Maximum and Minimum Line Length in the 'Extras' configuration. In other words, characters are transmitted until the minimum line length is reached, whereupon GPTERM looks for a space character and inserts a carriage return. If no space character is found before the maximum line length is reached, the word is chopped and a carriage return is inserted.
>
> *NOTE:* ***If Max or Min are zero, no line chop will occur.***

- Linefeeds in the original file are converted to carriage returns and transmitted subject to the settings of 'Line Feeds' in the configuration. (This conditionally adds linefeeds after carriage returns if desired.)

- ASCII Send automatically responds to XON/XOFF control from the remote service. If the program receives an XOFF character (Ctrl-S), transmission ceases for a maximum of 10 seconds or until either an XON or other character is received.

If GPTERM receives a 'break' signal, the ASCII upload will be aborted.

Prompted.

GPTERM will transmit the first line subject to the above conditions and wait for receipt of the defined prompt character (in the 'Extras' configuration) before transmitting the next line. If no prompt is received within approximately 10 seconds, the next line is transmitted regardless.

Verbatim.

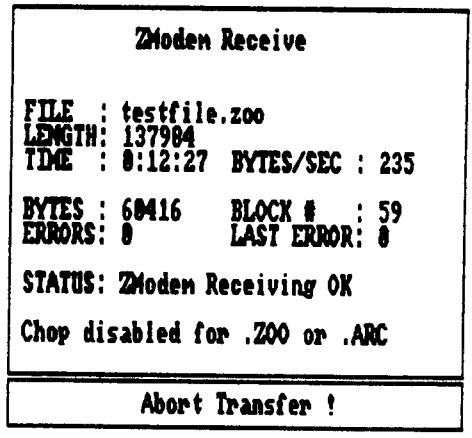
Transmit characters exactly as in the file. No line chop and no linefeed to carriage return changes are made. This mode does not send characters via the 'Line Feeds' control of the main configuration. The file is transmitted exactly as is.

Upload. (U)

Initiates an upload of a selected file to the remote service according to the protocol, error check and auto chop as defined in the configuration.

If one of the multiple file transfer protocols have been selected, you will be able to multiply select several files to upload in sequence if desired.

During the upload, a status window is displayed providing an 'abort' gadget to cancel the upload. Also displayed is the length of the file in bytes, number of blocks to transmit, and the estimated transmission time.



Download. (D)

Initiates a download of a file or files from the remote service according to the protocol, error check and auto chop as set in the configuration.

GPTERM will automatically disable the 'auto chop' feature if the file name has the suffix '.ARC' or '.ZOO'. *If you are receiving ARC or ZOO files, you must include this suffix in the file name.*

If one of the multiple file transfer protocols have been selected, you may only select the directory from the FileIO. The remote service will transmit the file name(s) as required.

During the download, a status window is displayed providing an 'abort' gadget to cancel the download.

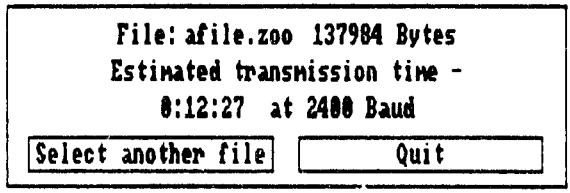
Protocol. (P)

Displays the 'Protocol' requester allowing you to quickly change transfer protocols.

View Transfers.

If 'View Transfers' is selected, subsequent uploads and downloads will be echoed to the screen.

Time to Send a File.

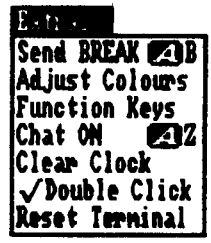


Calculates and displays the approximate time required to transmit a file using the XMODEM protocol at the current baud rate. Other protocols will be slightly faster, except PUNTER and KERMIT which are slower.

For example, the following table shows the approximate relative file transfer times for a large, standard file at 2400 baud using the different protocols. These were measured from the 'bytes/sec' value on the transfer display window. Because of handshaking or initialization of some protocols, the actual thruput (measured in bytes/sec) for some protocols will increase as the file size increases.

Protocol	Approx bytes/sec	Relative Time %
KERMIT	150	123
PUNTER	170	109
XMODEM	185	100
YMODEM	212	87
SEALINK	210	88
ZMODEM	230	80

8.3.1. The Extras Menus.



Send Break. (B)

Transmits a 'break' signal to the remote service. This is a special condition where the modem transmit line is held in the low position for 250 millisecs. A 'break' will terminate an ASCII upload from another GPTERM-Amiga or GPTERM-C64/128. It is often used as an abort signal on remote systems (when all else fails).

Adjust Colours.

Allows adjustment of the colours used in the ASCII mode. See the 'Common Menus' for further details.

Function Keys. (HELP)

Displays the function key window allowing you to transmit or edit the strings of characters assigned to each function key. Once set, pressing a function key will transmit the defined character string. (See the 'Common Menus' for further details.)

Chat Mode.

GPTERM simplifies communication sessions between users by providing a special 'user to user' chat mode. This enables half duplex, adds linefeed to carriage returns where needed, and also prints the incoming and outgoing text in different colours. When enabled, the word 'CHAT' will appear on the status line. Should not generally be used when connected to a remote service.

Clear Clock.

Clear the status line connect time clock.

Double Click.

Allows you to disable the Double Menu Request function of the right mouse button. This is normally used as a short cut to display the main configuration requester. However, you may find this anoying.

Reset Terminal.

Performs a full terminal reset of the currently selected terminal emulation. This function performs the same function as sending the ANSI reset command (i.e. ESC c) to the emulation.

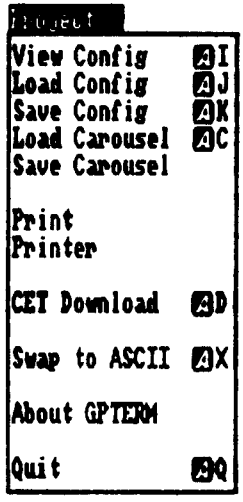
This option is provided as a safety measure, specifically in case the screen becomes disorganised when using the VT100 mode. Sometimes it is possible that a remote system will not reset the various functions such as scrolling regions, application keypad and cursors or reverse screen etc. This may result in a somewhat 'strange' display.

All attributes are reset and a clear screen command is also performed. For some emulations this will 'home' the cursor, for some it will not, depending on the emulation.

9. THE VIDEOTEX TERMINAL MODE.

The videotex mode of GPTERM is designed to provide full compatibility with Telecom's Viatel and other standard 'Prestel' videotex services. It is driven from four main menus, with 'hot-keys' on the main functions, plus a number of associated requesters and windows.

9.1. The Project Menus.



View Configuration (I)

Displays the main configuration window allowing you to change the operating parameters for either terminal mode. Refer to the configuration section above for more details.

Load Configuration. (J)

Loads a complete program configuration from disk. The new configuration is acted on immediately. If an ASCII terminal emulation is set in the loaded configuration, the program will immediately swap to that mode. Refer to the configuration section above for more details.

Save Configuration. (K)

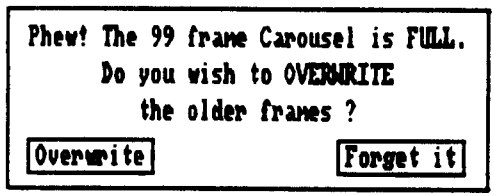
Saves the current configuration to disk. Refer to the configuration section above for more details.

Load Carousel. (C)

Selecting 'Load Carousel' from the menu, or pressing right-Amiga and 'C', displays the FileIO requester for the currently selected VTX path. From the list of videotex files, select the required frame or carousel name and select 'OK' to load it into the memory carousel.

The internal memory carousel can hold up to 99 frames, subject to memory constraints. Storing frames or loading saved frames or carousels from disk will append the new frames onto the end of the current carousel list. If this is not desired, first select 'Clear All' from the 'Display - Carousel Frames' menu.

If the 99 frame limit is reached, either when loading several carousels or when storing a single frame, the program will display a requester as

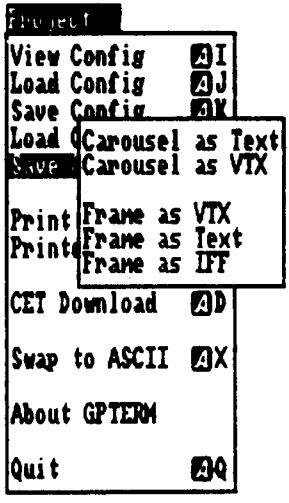


If you select 'Overwrite', the storage of new frames or loading new carousels will continually overwrite older frames in the carousel ('wrap-around'). If you subsequently select 'Clear All' from the 'Display' menu, the overwrite switch will be cleared.

If you select 'Forget it', this requester will appear as a warning each time you attempt to add new frames to the current carousel.

Since a full carousel requires more than 100K of the Amiga's memory, if other programs are running in the multitasking mode, there may not be enough memory available for a full carousel. In such cases you will have to free up some of the Amiga's memory by exiting one or more of the external programs.

Save Carousel.



Selecting 'Save' from the project menu will provide the options to save either the current frame or the complete carousel to a file for permanent storage.

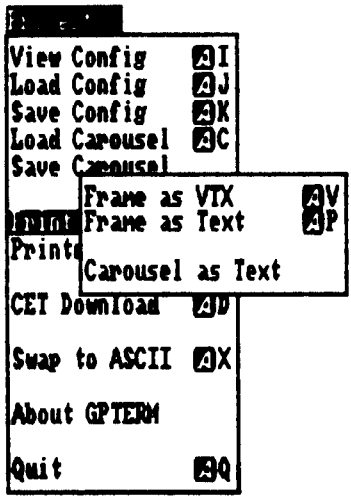
When the FileIO requester appears, select Disk, Drawer and Name to set the correct path to the directory and filename of your choice then select 'OK!'.

GPTERM automatically creates icons for videotex files but you may select whether icons are created for IFF and Text files from the 'Disk/File Control' area in the configuration.

Options for Save Carousel include

Frame as Videotex	Saves the current frame in compressed videotex format.
Carousel as Videotex	Saves the complete carousel in compressed videotex format.
Frame as Text	Saves the current frame as ASCII text for later use in a wordprocessor or similar program.
Carousel as Text	Saves the complete carousel as ASCII text.
Frame as IFF	Saves the current frame as an InterLeaved BitMap image suitable for loading into graphics programs such as Deluxe Paint or similar.

Print.



Provides hardcopy of videotex frames on your printer. By convention, we have adopted to direct all printer output to the Amiga's PRT: device as defined in your preferences file in the DEVS: directory. It is your responsibility to ensure that the correct printer driver has been copied to your boot disk and that the preferences file is adjusted to reflect the correct printer type and settings. If you are using a single drive system, first make a backup copy of the master

program disk then copy your printer driver files and 'system-configuration' file to the 'Devs' directory of the backup copy before booting the software for printing.

Two types of hardcopy are available.

- The graphics dump ('Frame as Videotex') will provide a full high resolution graphics dump of the current frame. If a colour printer is used, full colour copy is available according to the preferences settings.

- The text dump ('Frame/Carousel as Text') provides a quick and convenient method of obtaining a hardcopy of the textual content of the videotex frame. All graphics characters are replaced by a period character '.', while normal text is unaffected.

On the text printout, we have not included an abort function. However, when a graphics dump or carousel print is selected, a small requester will appear providing an 'abort' gadget. Clicking the left mouse button on this gadget will abort the printout.

IMPORTANT NOTE: It is your responsibility to ensure that the printer is correctly connected to the Amiga with the appropriate cables, that power is turned on, and that the printer is on-line ready to accept data ***BEFORE*** *selecting any of the print options. If the printer is not available, approximately 30 seconds after selecting a print function, the Amiga will display a 'System Request'* ***ON THE WORKBENCH SCREEN*** *informing you of printer trouble. You must correct the printer fault and select 'Retry' or 'Cancel' before continuing with GPTERM. If such a 'System Request' appears, the main GPTERM screen will be pushed to the back of the display by Intuition. You will need to swap to the main GPTERM screen to the front by pressing Left-Amiga and 'M' in order to continue.*

Printer.

On-line / Off-line selects the status of the printer device to provide continuous hardcopy (in text format) of all incoming videotex frames. A frame will be printed on receipt of the clear screen command for the subsequent page.

CET Download. (D)

Allows downloading of telesoftware under the CET protocol as recommended by Telecom's Viatel service.

Selecting 'Download' from the menu, or pressing right-Amiga 'D', will initiate the download process. The current frame will be scanned to check if it is a correct 'header' frame for a download. If the test is successful, the program will display the FileIO requester allowing you to adjust the file path name for the file to be downloaded. When this is correct, select either 'OK' or 'Cancel'.

The download process will continue until all frames have been downloaded successfully, or until any frame requires more than five (5) retries because of errors in the frame. (Transmission errors will most likely occur when the telephone connection is poor.)

You must be positioned on the first or header frame of the download area before selecting download. Carefully read the information supplied by the service provider.

Swap to ASCII. (X)

Exit the videotex emulation and swap to ASCII mode. See Common Menus above for more details.

Quit. (Q)

Allows you to exit GPTERM and return to Workbench. See Common Menus above for more details.

As with the 'Project - Printer - ON line' option, the current frame is stored on receipt of the clear screen command for the next frame. Remember, the frame currently visible on the screen will normally not be actually in the store yet.

The 'Auto-Log' function may be quickly toggled using the right Amiga - A shortcut so that you may only log tohose parts of the session you require.

If the carousel becomes full, with all 99 frames being used, the same requester will appear as if you used the simple 'Store Frame' option above.

It is not recommended that you view different carousel frames while Auto Log is in operation.

Slideshow.

The slideshow may be invoked at any time to display, on a rotating basis, either the frames stored in the carousel or from a disk file.

To initialize the slideshow, select 'Slideshow' with the sub-option of from 'Carousel' or 'Disk' as required. The frames in the carousel will then be displayed on the screen for the time as set in 'Slide Timer' of 5, 10, 30 or 60 seconds.

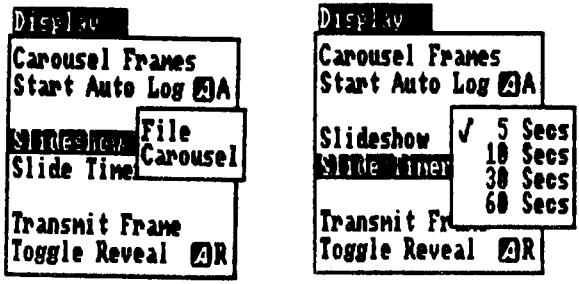
If you select to display the slideshow from disk, you will be able to multiply select any number of different carousels. These will be subsequently displayed in the order they are shown in the file list. At the end of the list, the display will restart from the top.

Displaying a slideshow from disk or carousel does not affect any of the frames actually stored in the memory carousel.

When a slideshow has been started, a new menu becomes available which allows you to quit the slideshow and return to the main screen, or adjust the local slide timer.

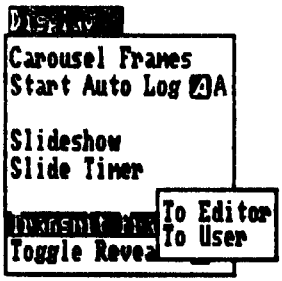
It is recommended that the slideshow function be used only when off-line, although for safety all incoming data from the modem will be preserved up to a limit of approximately six (6) complete frames.

Slide Timer.



Allows you to set the default display time for the slide show between 5, 10, 30 or 60 seconds.

Transmit Frame.



Allows you to transmit the current frame to another user with a videotex program, or to the Viatel Editor after you have prepared a design for inclusion in a data base.

*NOTE: This facility **MUST** only be used to transmit complete frames. It **CANNOT** be used to transmit preprepared messages or partial frames to electronic mail, telex services or similar.* (These options will be available in a later version of GPTERM.)

Transmit Frame - to Editor.

This option is designed to transmit the current frame to the Viatel editor. It *does not send the top line nor the bottom line of the videotex frame* (which are provided in the editor itself), nor does it send a clear screen command before the frame. You MUST be positioned on the first character of the edit frame before beginning transmission. To ensure clear transmission, GPTERM transmits at approximately six (6) characters/second and therefore requires approximately 150 seconds to transmit the complete frame.

Transmit Frame - to User.

This option first sends a clear screen command then transmits the complete videotex frame at full speed to the modem. It is designed so that users may transmit frames to other users. *It must not be used to transmit frames to the Viatel Editor.* If transmission with this option is unsuccessful, because of line noise or speed problems, you may first send a clear screen (CONTROL-L) to the other user, then transmit the frame using the previous option.

Toggle Reveal. (R)

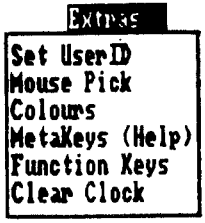
One of the less used videotex attributes is the ability to conceal parts of the display until the user selects to reveal these areas. Selecting this option from the menu or pressing right-Amiga and 'R' will redisplay the screen and alternatively reveal or conceal any areas marked by a conceal sequence.

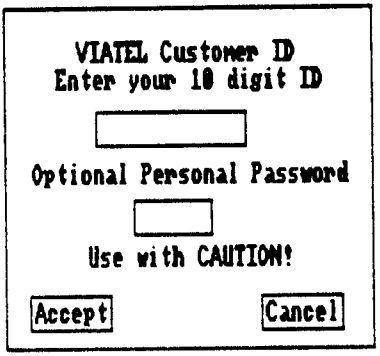
9.3. The Phone Menus.

See the discussion on Common Menus above.

> *NOTE: Once a connection has been established, if the videotex service sends an 'ENQ' code (CONTROL-E character), GPTERM will attempt to respond by transmitting the User-ID and password as discussed below. If a complete ID has not been entered, nothing will be transmitted.*

9.4. The Extras Menus.





Set User-ID.

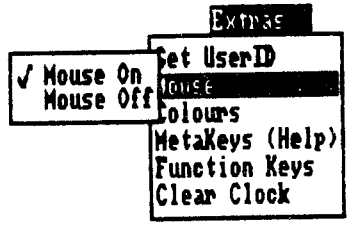
Selecting this option brings up a requester which allows you to enter your 10 digit user ID and 4 character password. (So that GPTERM may automatically transmit these on receipt of the Viatel 'ENQ' command.) Your settings are entered in the main configuration and are also adjustable from the 'Modem' configuration requester, although it is recommended that you use the above option to set the user ID since it provides more checking against error.

IMPORTANT NOTE: You MUST enter the complete 10 digit user ID, and, if you choose to do so, the compete 4 character password. For your safety, GPTERM will ignore incomplete information.

Since this data is stored in the configuration, once saved to disk, it can be recalled the next time you access this service.

WARNING: The password option is provided for your convenience. Use it with caution. Ensure that other users are NEVER allowed to accidentally view your ID and password since this would enable them to access the service in your name!

Mouse Pick.



Allows you to select whether the mouse pick is available from the main videotex screen. See below for full details on operation of the mouse while on line.

Colours.

See discussion on Common Menus.

Function Keys.

Displays the function keys allowing you to edit the definitions. In non-edit mode, a single click on the text associated with a key definition will transmit it to the modem.

There is *only one set* of function keys which are available in both terminal modes.

NOTE for Videotex mode function key usage.

With the function keys, you may enter control keys by using the '^' character to preface the required key. (See discussion on function keys in Common Menus.)

Care should be taken when entering a carriage return sequence ('^m') into a function key definition. Videotex services use a special character which looks like an '#' character as an 'end of entry field' code. A carriage return character actually performs a different function. The videotex '#' character cannot be represented by the usual shifted-3 key. (This decodes to a pound character, '', in videotex.)

If you wish to include a videotex '#' character (ASCII value $5F) in a function key definition to be used in videotex mode, you must press the 'underscore' character (shifted-minus, '_') instead.

MetaKeys. (HELP)

Displays the ALT instant access Viatel keys for selection. See discussion below.

Clear Clock.

Clears the connect time clock and any accumulated page costs. Should not be used during a normal videotex session.

10. THE ON-LINE VIDEOTEX SESSION.

10.1. General.

Status Line.

The status line for the videotex mode is always displayed on the top line of the screen. The main features of the status line are

Starting from the right, the status line shows the following:-

- The on-line session cost including any frame costs plus time charges (cost/minute).
- The time of the on-line session.
- Whether the modem is on or off line. The word 'LINE' flashes when no carrier is detected from the modem, and is steady when connected to a remote system.
- The number of frames stored in the memory carousel or the currently displayed frame number and total stored.

The status line is updated every second or more frequently when on-line. Cost is updated every minute or when a charged page is detected. (This is done on receipt of the clear screen for the next subsequent page and also during software download.)

When off line, the status line is updated only periodically.

Keyboard.

You may use the full keyboard of the Amiga to send commands to the videotex service, with preference being given to the numeric keypad providing the numbers '0'-'9', '*' and '#'. As discussed below, the 'Enter' key on the numeric keypad has been redefined to the videotex 'end of input' character, '#'. For compatibility with 1000 owners, the minus key is redefined as an '*' character.

General operation of the videotex mode is performed by selecting from the various menu functions. We have included 'hot-keys', using the Right-Amiga plus Key sequence, for the most commonly used menu functions. Also included are a special set of 'metakey' or ALT-Key functions which transmit a pre-defined page number to allow instant access to your favourite Viatel/videotex pages. More detail on the operation of these functions is provided below.

Mouse Control.

Since GPTERM was specifically designed for the Amiga, we have included the ability to control the on-line videotex session almost completely by using the mouse.

Mouse detection of the frame and selection of page features is available only under the following conditions:-

a) Provided mouse operations have not been set to 'none' from the 'Extras-Mouse' menu.

b) When on-line connected to a remote service.

c) When the display consists of the 'real' videotex frame as directly received from the remote service. If you have recalled a frame from the carousel or performed similar functions, mouse operation is prevented. This can be determined by viewing the status line. If the word 'Stored' is showing on the status line, mouse pick is available. If the word 'Frame' is displayed, mouse pick has been disabled.

d) When the mouse pointer is positioned on the screen between lines 2 and 23 of the videotex display.

The mouse may be used to select number choices or the '#' from the videotex frame. It will not allow selection of specific page sequences such as *12324#.

When the mouse pointer is positioned over a character on the screen which is either a '#' character, a number, or the start of a number sequence (such as '22'), a single click of the left mouse button will transmit this character, number or number sequence to the remote service. The mouse must be accurately positioned within the 8 x 9 pixel area containing the desired character. If the character is displayed in double height, the mouse must be positioned on the top half (8 x 9 pixel area) of the character.
Using this method, most choices from a Viatel frame can be selected using the mouse instead of typing the number on the keyboard.

10.2. The Videotex Keyboard and MetaKeys.

Keyboard in Videotex Mode.

GPTERM enables the full Amiga keyboard, including the numeric keypad, for videotex operation. Some keys are re-mapped to operate as particular videotex specific keys. On the Amiga 500/2000, the user should check that they have correctly initialized the keyboard by running 'SetMap' Usa1. (This should normally be included in your 'startup-sequence'.)

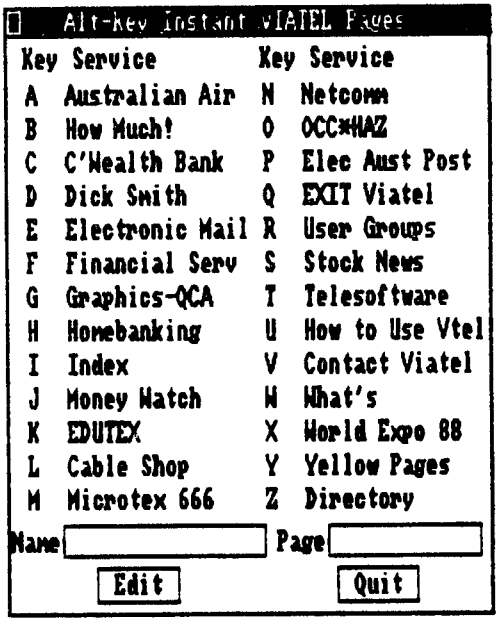
On the Amiga 500/1000/2000, the 'Enter' key on the numeric keypad has been redefined to represent the videotex 'end of input' character '#'. (Note that the normal '#' character on shifted-3 is redefined to a pound sign, ''.)

The large 'return' or 'new line' key on the main keyboard has been left as normal and will transmit a 'carriage return' to the videotex service. ***DO NOT USE this key unless you wish to specifically send a 'carriage return' character.*** Most videotex services including Viatel use the 'carriage return' code to perform a different operation. ***USE the ENTER KEY on the NUMERIC KEYPAD*** whenever you wish to terminate a line on a videotex service unless advised otherwise.

Several other keys have been redefined to reflect the videotex character set. These are

(underscore)	_	=	#
(tilde)	~	=	-
shift	~	=	divide
shift	\	=	double bar
	[	=	left arrow
	]	=	right arrow
shift	[	=	1/4
	\	=	1/2
shift	]	=	3/4
shift-3(#)		=	pound
shift-6(^)		=	up arrow

To ensure compatibility for Amiga 1000 owners, the minus key, '-', on the numeric keypad has been redefined as the '*' character.



GPTERM provides sets of 26 'shortcuts' or 'metakeys', providing direct access to specific Viatel/videotex pages. These may be accessed by holding down the ALT key and pressing the key 'A' to 'Z' corresponding to your choice, or by bringing up the ALT key requester and selecting the appropriate page name gadget with the left mouse button.

The set of 26 ALT-key definitions is stored on disk within the configuration. It may be loaded or edited at any time. Different sets of ALT-key definitions may be stored in separate configuration files to accommodate different services.
The ALT key definitions may be displayed by selecting 'MetaKeys' from the 'Extras' menu, or by pressing the 'Help' key in videotex mode.

When the ALT key definitions requester is displayed, you may select and transmit the pre-defined page sequence for the particular service by clicking once on the name of the service with the left mouse button. If you wish to see the actual page number for the service, click and hold down the left mouse button on the desired service, and, while holding down the mouse button, move the mouse pointer off the highlighted name. The name and page number will be displayed in the edit box on the bottom of the requester.

When you become familiar with the services available by these shortcuts, you may prefer to access them directly from the main screen by pressing the ALT key in combination with the key 'A'-'Z' corresponding to the desired service.

Editing ALT Key definitions.

To edit the definitions for each ALT key, select the 'Edit' gadget from the window, then select the definition required. The definition text and page sequence will appear in the edit boxes on the bottom of the requester. Click in either the service name or page string gadgets and change these as required. (You must press the 'enter' or 'return' keys to register your change.)

Select the 'Accept' gadget to accept all changes made to the definitions and enter them in the configuration.

Select the 'Cancel' gadget to ignore all changes made since the last edit.

Remember to re-save the configuration file to disk after you have changed the definitions so that you may use the new definitions for your next videotex session.

10.3. Editing of Videotex Frames.

GPTERM supports limited editing of videotex frames.

To edit a videotex frame, you must first

- Ensure that you are off-line.
- Display the main configuration and select half duplex, so that you can see characters you type. (*NOTE: If you have a 'smart' modem connected to the computer, which is echoing back characters to the terminal screen, leave the program set to full duplex. Otherwise you will see double characters on the screen.*)
- Enable the videotex cursor by holding down the 'Ctrl' key and pressing 'Q'.

You may now move around the screen using the cursor keys and create of edit whatever parts of the frame you wish.

For full details, you should refer you to the Telecom Viatel specifications available directly from Viatel itself. However, the following is a summary of the main escape sequences for editing colours and other attributes.

Control Characters

Ctrl - H	Cursor Left (backspace)	Ctrl - L	Clear Screen
Ctrl - I	Cursor Right	Ctrl - Q	Cursor On
Ctrl - J	Cursor Down	Ctrl - T	Cursor Off
Ctrl - K	Cursor Up		

Escape Sequences

Esc - A	Alphanumeric Red	Esc - Q	Graphics Red
Esc - B	Alphanumeric Green	Esc - R	Graphics Green
Esc - C	Alphanumeric Yellow	Esc - S	Graphics Yellow
Esc - D	Alphanumeric Blue	Esc - T	Graphics Blue
Esc - E	Alphanumeric Magenta	Esc - U	Graphics Magenta
Esc - F	Alphanumeric Cyan	Esc - V	Graphics Cyan
Esc - G	Alphanumeric White	Esc - W	Graphics White
Esc - H	Flash	Esc - X	Conceal
Esc - I	Steady	Esc - Y	Contiguous
Esc - J	*End Edit* *	Esc - Z	Separated
Esc - K	*Start Edit* *	Esc - \	Black Background
Esc - L	Normal Height	Esc -]	New Background
Esc - M	Double Height		

* For the on-line Viatel Editor ONLY.

APPENDIX A - SUMMARY OF HOT KEYS.

GPTERM-Amiga supports the following 'hot keys' as menu shortcuts. To use these shortcut, hold down the right Amiga key and press one of the keys below.

ASCII Mode Hot Keys.

Key	Function	Menu
A	ASCII Send (Normal)	Transfers
B	Send Break to Modem	Extras
C	Open/Close Capture File	Transfers
D	Download File	Transfers
G	Single Dial Current Number	Phone
I	View Main Configuration	Project
J	Load Configuration	Project
K	Save Configuration	Project
P	Display Protocol Config	Transfers
Q	Quit GPTERM	Project
S	START/STOP Capture Log	Transfers
T	Single Dial New Number	Phone
U	Upload File	Transfers
X	Swap Terminal Modes	Project
Z	Chat Mode ON/OFF	Extras
Help	Display Alt-Keys	Extras
Shift/Help	Display Modem Config	
Alt/Help	Display Extras Config	
Shift/Alt/Help	Display Disk Config	
Ctrl/Help	Display Protocol Config	
Double Menu Request	Display Main Config Requester.	

Videotex Mode Hot Keys.

Key	Function	Menu
B	Send Break to modem	Extras
C	Load Videotex Carousel	Project
D	Download File	Project
G	Single Dial Current Number	Phone
I	View Main Configuration	Project
J	Load Configuration	Project
K	Save Configuration	Project
L	Recall Last VTX Frame	Display
N	Recall Next VTX Frame	Display
P	Print Frame as Text	Project
Q	Quit GPTERM	Project
R	Toggle Reveal/Conceal	Display
S	Store Current VTX Frame	Display
T	Single Dial New Number	Phone
V	Print Frame as Graphics	Project
X	Swap to ASCII Terminal Mode	Project
Z	Select Stored Frame	Display
Help	Display Alt-Keys	Extras
Shift/Help	Display Modem Config	
Alt/Help	Display Extras Config	
Shift/Alt/Help	Display Disk Config	

Double Menu Request Select Stored Frame.

Standard Amiga Keys.

GPTERM-Amiga allows the following Amiga standard key combinations.

Screen Back/Front.

Left-Amiga/N	Swap to front screen
Left-Amiga/M	Swap to back screen

String Gadget Editing Keys.

Right-Amiga/X	Clears the input buffer.
Right-Amiga/Q	Undo (Cancel) the last editing change to the string.
Shift ->	Move cursor to end of current string.
Shift <-	Move cursor to beginning of current string.

APPENDIX B - Terminal Emulations.

General.

The various terminal emulations have been designed to provide the same terminal environment as you would experience when using a standard terminal of that type. For example, in the case of the AMIGA, the emulation provides all the main screen control features as defined for the 'console.device' in the "Rom Kernal Manual", Addison-Wesley Publishing Company Inc, December, 1986, Chapter 8, pages 218-286.

For ALL emulations, the 'return' and 'enter' keys, transmit a 'carriage return' character via the setting in the main configuration. Linefeeds will be added accordingly.

Display Speed.

GPTERM version 4.0 is capable of processing and displaying incoming text on the screen at up to 9600 baud. Some delay in the display may be experienced if extensive escape sequences are being processed or extensive screen scrolling is being used. Otherwise, for normal usage, the display should maintain full integrety with the incoming data stream up to 9600 baud. Above 4800 baud, GPTERM will automatically use XON/XOFF flow control commands to regulate the incoming text speed if required.

Amiga Emulation.

Provides an 8 colour, 80 column by 30 line display, depending on PAL/NTSC and the setting in your preferences. Supports all standard Amiga ANSI sequences. Exotic sequences such as 'Window Bounds Report', 'Set Page/Line/Left Offset/Raw Events', and 'SHIFT IN/OUT' are not supported. Most 'undocumented' features we can find are also supported.

For the Amiga the 'CSI', 'Control Sequence Inducer', may be either a hexadecimal $9B character, or the combination of 'ESC' plus '['.

Control Characters.

BELL	$07	Ctrl-G	Ding Dong
BS	$08	Ctrl-H	Cursor Left
LF	$0A	Ctrl-J	Newline or Linefeed as spec.
VT	$0B	Ctrl-K	Cursor Up
FF	$0C	Ctrl-L	Clear Screen
CR	$0D	Ctrl-M	
SI/SO	Not Implemented		

Summary of AMIGA ANSI Sequences.

Cursor Movements.

Cursor Up	CSI # A (# a number as ascii digit. Default if no value is 1.)
Cursor Down	CSI # B
Cursor Right	CSI # C
Cursor Left	CSI # D
Cursor Addressing	CSI # ; # H (where #;# is line, column as ascii digits.)
Home Cursor	CSI H
Next Line (index)	CSI E (to column 1)
Reverse New Line (Rvs Index)	CSI F

Editing Commands.

Insert Characters	CSI # @
Delete Characters (right)	CSI # P
Delete Line	CSI M
(undocumented	CSI # M)
Insert Line	CSI L (above current)
(undocumented	CSI # L)

Scroll Commands.

Scroll Up	CSI # S
Scroll Down	CSI # T

Erasing. Cursor remains in position after sequence.

From Cursor to End of Line	CSI K
From Cursor to End of Screen	CSI J

Linefeed Mode.

Set (Linefeed = CR/LF)	CSI 20 h
Reset (linefeed = LF)	CSI 20 l

Reset Terminal to default ESC c

Cursor Rendition.

Visible	CSI 0 ' ' p
Invisible	CSI ' ' p

Cursor Position Report.

Invoked by	CSI 6 n	
Response	CSI # ; # R	where #;# is line, column.

Special Graphics Attributes.

CSI # ; # ; #; ...; m

Value	Attribute
0 or none	Normal Text.
1	Bold On
3	Italics
4	Underline On
7	Reverse Video
30 - 37	Set Foreground Colour
40 - 47	Set Background Colour
other	Ignored.

Undocumented Commands.

We have found that the Amiga 'console.device' does in fact respond to some commands which are not documented in the RKM. These are implemented as follows:

Cursor Down		ESC D	
NewLine		ESC E	(CR/LF independent of LF setting!)
Cursor Up	ESC M		
Delete Lines	CSI # M		
Insert Lines	CSU # L		

Amiga PFKeys.

When the PFKEY gadget from the msin configuration has been selected, the unshifted function keys, F1 - F10 transmit the following key codes.

F1	CSI 0 ~	F6	CSI 5 ~
F2	CSI 1 ~	F7	CSI 6 ~
F3	CSI 2 ~	F8	CSI 7 ~
F4	CSI 3 ~	F9	CSI 8 ~
F5	CSI 4 ~	F10	CSI 9 ~

IBM Emulation.

Provides emulation of the standard ANSI features described in the operating manual for the IBM display screen, giving an 8 colour, 80 column by 25 line display. Other screen modes and pixel graphics modes are not supported. Some 'undocumented' features, such as 'ESC[J', for clear screen/home are included.

Control Characters.

BELL	$07	Ctrl-G	Ding Dong
BS	$08	Ctrl-H	Cursor Left
LF	$0A	Ctrl-J	Newline or Linefeed as spec.
VT	$0B	Ctrl-K	Cursor Up
FF	$0C	Ctrl-L	Clear Screen
CR	$0D	Ctrl-M	Carriage Return
SI/SO	Not Implemented		

Summary of IBM ANSI commands.

Cursor Movements.

Cursor Up	ESC [# A (# a number as ascii digit. Default if no value is 1.)
Cursor Down	ESC [# B
Cursor Right	ESC [# C
Cursor Left	ESC [# D
Cursor Addressing	ESC [# ; # H or ESC [# ; # f (where #;# is line, column as ascii digits.)
Home Cursor	ESC [H or ESC [f
Save cursor position	ESC [s
Restore cursor position	ESC [u

Erasing.

From Cursor to End of Line	ESC [K
Clear Screen, Home Cursor	ESC [2 J
(Undocumented	ESC [J)

Cursor Position Report.

Invoked by	ESC [6 n
Response	ESC [# ; # R where #;# is line, column.

Set/Reset Terminal Modes.

ESC [= # h/l Default Mode underlined.
or ESC [= h/l
or ESC [= 0 h/l
or ESC [? 7 h/l

Mode Name	To Set	To Reset
LineWrap	ESC ? 7 h (Wrap On)	ESC ? 7 l (Wrap Off)

Others not supported.

Special Graphics Attributes.

ESC # ; # ; #; ...; m

Value	Attribute
0 or none	All Attributes Off (White on Black).
1	Bold On
4	Underline On
5	*Blink Flashing On*
7	Reverse Video
8	Canceled On (Invisible)
30 - 37	Set Foreground Colour
40 - 47	Set Background Colour
other	Ignored.

** Flashing characters are supported by 'reprinting' a linked-list of flashing text. Too many individual flashing characters may slow down the display speed.*

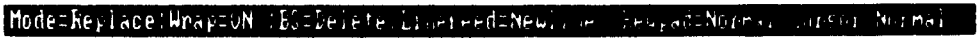
VT100 and VT52.

The VT100 and VT52 emulations are designed to emulate most standard commercial VT100 terminals. In fact, this emulation has been based on the TATUNG TVT-6600 video display terminal, a commonly used VDT found in university computer departments.

A 'monochrome', 80 column by 24 line display is provided. Flashing character and reverse screen attributes are fully supported. For the VT100 mode, most ANSI 3.64 command structures are supported including scrolling regions and insert/replace modes. The following ANSI features of the TVT-6600 are not supported:-

- 132 column mode
- 'protected fields'
- Special G0 and G1 character sets
  { ESC(A ESC)A ESC(B ESC)B }
- Graphics and line drawing character sets
  { ESC(0, ESC)0 }
- any specifically local editing feature.

Both the VT100 and VT52 modes provide an additional status line on the bottom of the screen (line 25). This displays the status of various special mode commands. The Status line shows the following



Mode	Replace or Insert characters	
Wrap	On or Off.	Auto Wrap at column 81.
BS	Delete or Left.	Destructive/non-destructive back space)
Linefeed	Linefeed or NewLine	(CR/LF)
Keypad	Normal (numeric) or	Application (special seq.)
Cursor	Normal (cursors) or	Application (special seq.)

Control Characters for VT100 and VT52.

BELL	$07	Ctrl-G	Ding Dong
BS	$08	Ctrl-H	Cursor Left
LF	$0A	Ctrl-J	Newline or Linefeed as spec.
VT	$0B	Ctrl-K	Linefeed
FF	$0C	Ctrl-L	Linefeed
CR	$0D	Ctrl-M	Carriage Return
SI/SO	Not Implemented		

Summary of VT100/ANSI commands.

Cursor Movements.

Cursor Up	ESC [# A	(# a number as ascii digit. Default if no value is 1.)
Cursor Down	ESC [# B	
Cursor Right	ESC [# C	
Cursor Left	ESC [# D	
Cursor Addressing	ESC [# ; # H or ESC [# ; # f	(where #;# is line, column as ascii digits.)
Home Cursor	ESC [H	
Index	ESC D	
Reverse Index	ESC M	
Save cursor position and attributes	ESC 7	
Restore cursor position and attributes	ESC 8	
Next Line	ESC E	

Editing Commands.

Delete Character (right)	ESC [# P
Delete Line	ESC [# M
Insert Line	ESC [# L

Erasing. Cursor remains in position after sequence.

From Cursor to End of Line	ESC [K or	ESC [0 K
From Beginning of Line to Cursor	ESC [# 1 K	
Entire Line Containing Cursor	ESC [# 2 K	
From Cursor to End of Screen	ESC [# J or	ESC [0 J
From Beginning of Screen to Cursor	ESC [1 J	
Entire Screen	ESC [2 J	

Set Scrolling Region ESC [# ; # r where #;# is top line, bottom line.

Tabs.

Set Tab at Cursor	ESC H
Clear Tab at Cursor	ESC [g or ESC [0 g
Clear All Tabs	ESC [3 g

Cursor Position Report.

Invoked by	ESC [6 n
Response	ESC [# ; # R where #;# is line, column.

Device Attributes.

Invoked by	ESC [c, ESC [0 c, ESC Z
Response	ESC [? 4 ; 2 c

Character Attributes.

ESC [# ; # ; #; ...; m

Value	Attribute
0 or none	All Attributes Off.
1	Bold On
2	Underline On
3	Blink On
7	Reverse Video On
other	Ignored.

Set/Reset Terminal Modes.

ESC [#;....# h Default Mode underlined.

Mode Name	To Set	To Reset
Insert/Replace	ESC [1 h (Insert)	ESC [1 l (Replace)
Linefeed/Newline	ESC [20 h (Newline)	ESC [20 l (Linefeed)
Cursor Keys *	ESC [? 1 h (Application)	ESC [? 1 l (Normal Cursors)
Swap to VT52	NA	ESC [? 2 l
Origin Mode	ESC [? 6 h (Relative)	ESC [? 6 l (Absolute)
Auto LineWrap	ESC [? 7 h (On Wrap)	ESC [? 7 l (Off no wrap)

(Application cursors are only available if application keypad is in operation.)

Application Keypad.

Set Application ESC =
Set Numeric ESC >

Causes the keypad to act as application keys and transmit the following codes.

Key	VT100	VT52	
0	ESC O p	ESC p	
1	ESC O q	ESC q	
2	ESC O r	ESC r	
3	ESC O s	ESC s	
4	ESC O t	ESC t	
5	ESC O u	ESC u	
6	ESC O v	ESC v	
7	ESC O w	ESC w	
8	ESC O x	ESC x	
9	ESC O y	ESC y	
-	ESC O l	ESC l	
+	ESC O m	ESC m	
.	ESC O n	ESC n	
Enter	ESC O M	ESC M	
((PF1)	ESC O P	ESC P	(note)
) (PF2)	ESC O Q	ESC Q	(note)
/ (PF3)	ESC O R	ESC R	(note)
* (PF4)	ESC O S	ESC S	(note)

Special Note: For compatibility with a standard VT100 VDT where the PFKeys are situated directly above the numeric keypad, we have allowed the top row of keys on an A500/2000 to behave as standard PFKeys if application keypad mode is enabled. If you have selected the PFKeys gadget in the configuration, the normal Amiga function keys (1-10) will also act as PFKeys.

Cursor Keys.

The cursor keys transmit the following sequences depending on the mode settings. (Application cursors are only available if application keypad is also set.)

Key	VT52	VT100 Cursor Mode	VT100 Application Cursor Mode
Up	ESC A	ESC [A	ESC O A
Down	ESC B	ESC [B	ESC O B
Right	ESC C	ESC [C	ESC O C
Left	ESC D	ESC [D	ESC O D

VT52 Specific sequences.

When either VT52 emulation has been set, or the VT100 mode receives a command from the remote system to enter VT52 mode, only the following command sequences are available.

Cursor Up	ESC A	
Down	ESC B	
Right	ESC C	
Left	ESC D	
Home	ESC H	
Cursor Pos	ESC Y # #	where # # is line, column plus $1F
Reverse LF	ESC I	
Erase to End of Screen	ESC J	
Erase to End of Line	ESC K	
Application Keypad	ESC =	
Numeric Keypad	ESC >	
Identify	ESC Z	responds with ESC / Z
Enter ANSI mode	ESC <	
Reset	ESC c	

TTY Emulation.

Provides a 'monochrome' 80 column by 30 line display. A 'dumb' terminal emulation only, no escape sequences of other commands are implemented.

APPENDIX C - ZMODEM Documentation.

About ZMODEM.

ZMODEM is a modern file transfer protocol designed by Chuck Forsberg. It is an intelligent, streaming, batch protocol that offers state of the art performance over normal phone lines as well as packet switched networks. Some of its features follow.

- **Full streaming operation.** The sending end sends data continuously unless interrupted by the receiver to correct an error. This means that full speed can be maintained on packet switch networks where packet delays of 5 seconds or more are not uncommon. XON/XOFF control is built into the ZMODEM protocol to support this feature so that if the receiving end cannot handle full speed transfers it can control the rate of data transmission without having to acknowledge every block.

- Ability to **Escape all control codes.** This feature is again of use on packet networks where certain control codes can, if transmitted as is, severely disrupt transmission. ZMODEM avoids this problem by coding control codes into a standard ASCII format.

- **Full batch operation.** The protocol sends full file name, length and modification time information as part of a header block. This means that many files can be sent in a single operation.

- **Selectable 16 or 32 bit CRC encoding.** All packets in ZMODEM are protected with either a 16 or 32 bit Cyclic Redundancy Code, which ensures virtually 100% data integrity.

- **Variable Block Size.** The size of each block can be varied to suit the quality of the transmission line.

- **Dynamic block sizing.** ZMODEM can dynamically adjust the block size during transmission to allow for changing line quality.

- **Correct file length.** The exact file length is automatically determined by ZMODEM, avoiding the padding problems that AmigaDOS has with executable files.

- **Binary/Text conversion.** ZMODEM can either send a mirror image of a file (Binary) or perform the necessary conversions when sending text files to and from computer systems other than the Amiga.

- No waiting for start of transfer. It doesn't matter which end starts first, there is no delay waiting for handshake since ZMODEM supports a full handshake protocol at the start and end of each file, and at the start and end of each transfer session.

- Intelligence. Built in to the ZMODEM protocol is the ability for the receiving and transmitting programs to exchange control information. This allows a degree of intelligence in the transfer process and the support of a number of nice features.

  - o Ability to append receive a file and append it to an existing file.

  - o The ability to resume a transfer at the point it was interrupted due to error or poor line quality. This feature is extremely useful. If you have received all but the last few bytes of a program and the session was aborted due to errors, you can log on again at any later time and resume the transfer where you left off.

  - o The destination file can be protected. Therefore if a file already exists at the receiving end it will NOT be transmitted.

  - o The initial handshaking can determine the length and creation time of a given file on the destination system. File transmission can be restricted so that a file will be sent ONLY if the destination file does not exist or is either of a different length of a different modification time.

  - o A file can be automatically deleted after it has been successfully transmitted.

  NOTE: ALL of the above intelligent features are optional and are disabled by default.

The GPTERM Amiga implementation of this protocol supports ALL of the features above with the exception of dynamic block sizing.

Using ZMODEM with GPTERM.

1. Pull down the Protocol requester and set the gadgets according to the features which you want enabled. In the majority of cases all of the gadgets should be left un-selected, giving perfectly satisfactory results. The gadgets are discussed in detail below.

2. When all the protocol gadgets have been set to your requirements, click on the OK gadget.

3. To Receive a file or files, select the DOWNLOAD option on the TRANSFER menu (or press Right Amiga-D). This will bring up the Receive File requester. All you need to do now is use the File Requester to select which directory (or drawer) you wish the received files to be sent to. If you select any file names they will be ignored since ZMODEM transmits the file name automatically. When you have selected the correct directory click on the OK gadget.

4. To Transmit a file or files, select the UPLOAD option on the TRANSFER menu (or press Right Amiga-U). This will bring up the Transmit File requester. Now you may select which directory (or drawer) you wish to transmit from and click on as many files as you wish to send. You may enter a standard AmigaDOS wild card pattern into the string gadget marked "or Enter a Pattern", and then press 'RETURN'. Any files which match the pattern you have typed in will be automatically selected. For example, if you type #?.doc into the pattern gadget, all files ending in '.doc' would be selected. When all the files have been selected click on the OK gadget. Alternatively, to send a single file, simply double-click the file name.

5. Go and have a cup of coffee and wait for GPTERM to beep, signalling that the transfer has completed. *NOTE: The transfer process can be aborted at any time by clicking on the "Abort Transfer !" gadget or by pressing the ESCAPE key.*

ZMODEM Protocol Options.

The "XMODEM ERR CHECK" and "TRANSFER MODE" gadgets are ignored by ZMODEM, all other gadgets are operative.

ZMODEM Control Options.

RESUME:

If this gadget is ON, a transfer will be resumed at the point where it was previously aborted. If the file does not exist at the receiving end, the whole file will be transmitted, otherwise only the part which has not been sent will be transmitted. If the file at the receiving end is the same size as that at the transmitting end nothing will be transmitted.

APPEND:

If a file of the same name exists at the receiving end then the file at the transmitting end is sent and appended to the end of the receiving end file.

ESC CTRL:

If this option is selected, all control characters will be encoded in a standard ASCII format. You will only need to use this option if you are transferring files over a packet switched network which cannot handle certain control characters.

MASK-$7F:

If this gadget is selected, the receiving program will zero the high order bit of every byte before it writes it to disk, and the transmitting program will zero the high order bit before it transmits it.

WARNING: ***You may not use this option if you have selected BINARY override. If you do then the BINARY override will be turned off. Likewise if you have selected MASK-$7F and you then select BINARY override then MASK-$7F will be turned OFF.***

PROT DEST:

If a file of the same name exists at the receiving end then the transfer for that file is skipped. If more files are waiting they will be sent in turn.

DEL SEND:

If this gadget is turned on any files which have been successfully transmitted will be automatically deleted at the sending end. Use this gadget if you have some file stored temporarily in a directory (eg. RAM: or RAD: etc.) and wish to erase them after they have been transmitted.

WARNING: *Use this gadget with extreme caution. If you unknowingly have it turned on when you don't want it you can erase valuable files with blissful ease.*

SEND DIFF:

A file will only be transmitted if the file at the receiving end is of a different length or has a different modification time. If the file at the receiving end has the same length AND the same modification time then that file will be skipped. If more files are waiting they will be sent in turn. Of course, if a file does not exist at the receiving end it WILL be transmitted.

CRC-16:

When selected, this gadget causes all blocks to be encoded with 16 bit CRC instead of 32 bit. It can give a marginal increase in performance but at the loss of some data integrity. It should only be used on very good quality lines.

NOTE: The 'Resume', Append', 'Prot Dest', Send Diff' are mulually exclusive. Only one of the options may be active at any one time. If you select one of those four all the others will be automatically de-selected. It is possible for the transmitting end and the receiving end to both select a different one of these four gadgets. If so the receiving end setting will override the transmitting end setting.

ZMODEM Override Options.

BINARY/TEXT:

These two gadgets go hand in hand and will be discussed together. For either the receiving or transmitting end, both of these gadgets may be OFF or one and only one of them may be ON. If you try and select one of the gadgets, the other one will be automatically de-selected if it is ON.

IMPORTANT NOTE: If BINARY is selected at EITHER end, it will force a binary transfer no matter what is selected at the other end. If one end selects ASCII and the other end has neither option selected then an ASCII transfer will take place. Of course, if BOTH ends select the same option then that type of transfer will take place. IF BOTH ends leave BOTH gadgets OFF, a BINARY transfer will take place by default.

A BINARY transfer is a mirror image copy, that is, every byte in the file is transferred as is with no additions or modifications.

An ASCII transfer is one in which conversions are made to make a text file transmitted from one type of computer have the correct format for the receiving computer and vice versa. For example, a text file transmitted to an MS-DOS system will have Carriage returns added before every linefeed character and a CONTROL-Z character appended to the end of the file.

APPENDIX D - MODEMS AND RS232 CONNECTIONS.

GPTERM has been designed to work most efficiently when used in conjunction with a 'smart' modem which follows the conventions originally developed by the Hayes corporation. Most 'intelligent' modems on the market today do in fact conform to this specification. Examples of these modems include NetComm, Avtek, BitBlitzer and many others.

The various internal settings of a smart modem affecting baud rate, pulse or tone dial, etc, may be controlled from within the program by transmitting short command sequences to the modem. (Such commands are normally preceded by the 'AT' or attention command.) However, because modem manufactures do not adhere to a strict standard for these commands, you must carefully read the instruction manual from your modem before setting the built-in commands in GPTERM.

If you wish to fully use all the features of your modem and GPTERM you MUST be completely familiar with the operation of your particular modem.

IMPORTANT: Carrier Detect Signal.

GPTERM expects the 'carrier' signal from the modem to ONLY be present when you have established a successful connection to a remote modem. This is the method by which GPTERM determines whether the dialling of a number has been successful or not. Specifically, the dialling sequence works as follows.

a. Check if carrier signal is present.
   If so, then there is no need to dial since this signal indicates that a connection has already been established. (Protects the users from themselves!)

b. Transmit the dial string to the modem.
   (e.g. 'ATB0DP01955')

c. Wait for either

   . Carrier signal from modem

or

   . Response code or phrase from modem.

If a carrier signal is not found, GPTERM assumes that no connection has been established.

We have found that some modems, namely the ***BitBlitzer*** range, unfortunately default to a setting whereby the carrier signal is ALWAYS PRESENT! In this case, GPTERM thinks that a connection has already been established and will refuse to dial the number.

If you own a ***BitBlitzer*** or similar modem, you must ensure that the default setting on power-up has the 'carrier' signal determined by the remote modem. To do this simply select ASCII terminal mode and type the appropriate command sequence.

WE RECOMMEND THAT YOU ENTER THE FOLLOWING SEQUENCE BEFORE ATTEMPTING TO DIAL ANY NUMBERS.

Enter	*AT&C1*	*<enter>*	This sets carrier from remote.
	AT&W	*<enter>*	This writes the setting to memory in the modem so that it will remain set when you power down.

RS232 CABLE CONNECTOR.

GPTERM should be connected to your modems with the standard Amiga RS232 serial cable, normally a 25 way cable. Ensure that you use the correct one for your particular Amiga. The A1000 and A500/2000 connections are different. You may cause serious damage to your computer and modem if you use the incorrect cable. If in doubt, don't just try it! Check with someone who knows which cable is the correct one for your computer.

GPTERM will also work quite happily in conjunction with a 'dumb' modem save for the fact that you will have to dial the number manually then switch your modem to 'data' when you hear that 'carrier signal' from the remote service.

If you are using a 'dumb' modem, ensure that you have the wired the 'carrier detect' signal through to the Amiga. The clock in both operating modes will only work if this signal is present. This is pin 8 on the Amiga side. Refer to your Amiga and modem manuals for the correct pin connections.

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